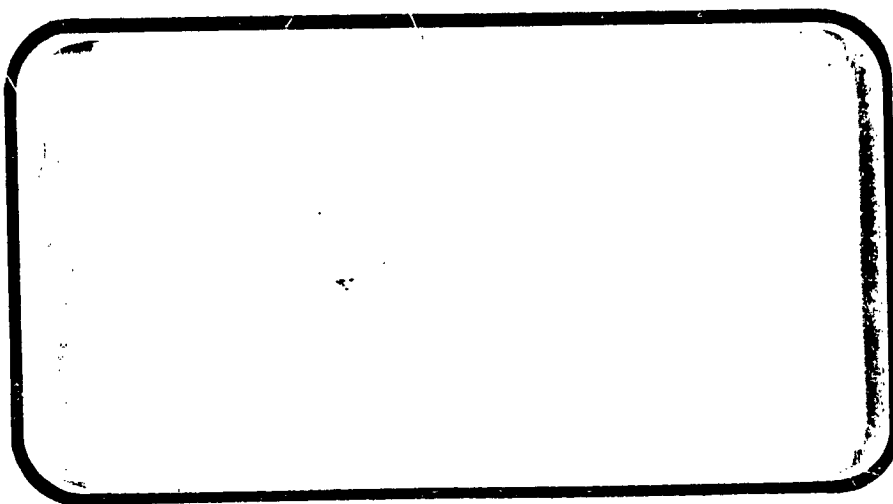




# NATIONAL AERONAUTICS AND SPACE ADMINISTRATION



(NASA-CR-128791) SUPERSONIC AERODYNAMIC  
CHARACTERISTICS ASSOCIATED WITH VARIATIONS  
IN THE GEOMETRY OF THE FORWARD PORTION  
OF IRREGULAR PLANFORM WINGS (Chrysler  
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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA Management services

SPACE DIVISION



CHRYSLER  
CORPORATION

October, 1973

DMS-DR-2052  
NASA CR-128,791

SUPERSONIC AERODYNAMIC CHARACTERISTICS  
ASSOCIATED WITH VARIATIONS IN THE GEOMETRY OF THE  
FORWARD PORTION OF IRREGULAR PLANFORM WINGS

By

Bernard Spencer, Jr. and David R. Stone

Prepared under NASA Contract Number NAS9-13247

by

Data Management Services  
Chrysler Corporation Space Division  
New Orleans, La. 70189

for

Engineering Analysis Division

Johnson Space Center  
National Aeronautics and Space Administration  
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number: NASA/LARC UPWT 1015

NASA Series No.: LA-10B

Date: Feb. 23 - Apr. 18, 1973 (110 Occ. Hrs.)

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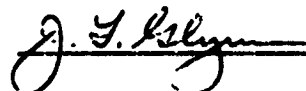
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This document has been reviewed and is approved for release.

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Data Management Services



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SUPERSONIC AERODYNAMIC CHARACTERISTICS ASSOCIATED WITH  
VARIATIONS IN THE GEOMETRY OF THE FORWARD PORTION  
OF IRREGULAR PLANFORM WINGS

By

Bernard Spencer, Jr. and David R. Stone  
Langley Research Center

ABSTRACT

The experimental longitudinal and lateral-directional stability characteristics of a Langley conceptual space shuttle orbiter design have been obtained for a series of inboard planform fillets in the NASA/LaRC Unitary Plan Wind Tunnel. Fillet sweep angles up to  $78^\circ$  were investigated while holding the spanwise intersection of the fillet and wing constant. The data were obtained at Mach numbers of 2.36 to 4.63 and at Reynolds numbers (depending on Mach number) of  $1.5 \times 10^6$  to  $2.5 \times 10^6$  per foot. The angle of attack was varied from about  $-2^\circ$  to  $44^\circ$  at  $0^\circ$  and  $3^\circ$  of sideslip.



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## COEFFICIENTS SCHEDULE:

A: CA, CFB, CN, CL, CLM, L/D, CD vs. ALPHA

CN, CL vs. CLM, CD vs. CL

B: DCY/DB, DCBLDB, DCYNDB vs. ALPHA

C: CY, CBL, CYN vs. ALPHA

D: DCL vs. LAMDAF

E: DALFTM vs. LAMDAF

# NOMENCLATURE General

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
a		speed of sound; m/sec, ft/sec
C <sub>p</sub>	CP	pressure coefficient; $(P_1 - P_\infty)/q$
M	MACH	Mach number; $V/a$
P		pressure; N/m <sup>2</sup> , psf
q	Q(NSM) Q(PSF)	dynamic pressure; $1/2\rho V^2$ , N/m <sup>2</sup> , psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
$\alpha$	ALPHA	angle of attack, degrees
$\beta$	BETA	angle of sideslip, degrees
$\psi$	PSI	angle of yaw, degrees
$\phi$	PHI	angle of roll, degrees
$\rho$		mass density; kg/m <sup>3</sup> , slugs/ft <sup>3</sup>
<u>Reference &amp; C.G. Definitions</u>		
A <sub>b</sub>		base area; m <sup>2</sup> , ft <sup>2</sup>
b	BREF	wing span or reference span; m, ft
c.g.		center of gravity
$\frac{l}{c}$ <sub>REF</sub>	LREF	reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; m <sup>2</sup> , ft <sup>2</sup>
	MRP	moment reference point
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis

## SUBSCRIPTS

b	base
l	local
s	static conditions
t	total conditions
$\infty$	free stream

# NOMENCLATURE (Continued)

## Body-Axis System

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
$C_H$	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
$C_A$	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
$C_Y$	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
$C_{A_b}$	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(P_b - P_\infty)/qS$
$C_{A_f}$	CAF	forebody axial force coefficient, $C_A - C_{A_b}$
$C_m$	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
$C_n$	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
$C_l$	CBL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$

## Stability-Axis System

$C_L$	CL	lift coefficient; $\frac{\text{lift}}{qS}$
$C_D$	CD	drag coefficient; $\frac{\text{drag}}{qS}$
$C_{D_b}$	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
$C_{D_f}$	CDF	forebody drag coefficient; $C_D - C_{D_b}$
$C_Y$	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
$C_m$	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
$C_n$	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
$C_l$	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$
$L/D$	L/D	lift-to-drag ratio; $C_L/C_D$
$L/D_f$	$L/DF$	lift to forebody drag ratio; $C_L/C_{D_f}$

# NOMENCLATURE (CONCLUDED)

## ADDITIONS TO STANDARD LIST

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
$S_f$		wing fillet planform area, in <sup>2</sup>
$\Lambda_f$	LAMDAF	wing fillet leading edge sweep angle, degrees
$\Delta C_L$	DCL	differential lift coefficient
$\delta_{rf}$	RUDFLR	rudder flare, split rudder deflection angle, left split rudder trailing edge left and right split rudder trailing edge right, $\delta_{rf} = (\delta_{rL} + \delta_{rR})/2$ , positive deflection; degrees
$\delta_{BF}$	PDFLAP	flap, surface deflection angle, positive deflection trailing edge down; degrees
$\delta_e$	ELEVTR	elevator, surface deflection angle, positive deflection trailing edge down; degrees
$C_{Y\beta}$	DCY/DB	side force coefficient derivative with beta, $\partial C_Y / \partial \beta$ , per degree
$C_{n\beta}$	DCYNBB	yawing moment coefficient derivative with beta, $\partial C_n / \partial \beta$ , per degree
$C_{l\beta}$	DCBLDB	rolling moment coefficient derivative with beta, $\partial C_l / \partial \beta$ , per degree
	WINGNO	configuration wing number
	DALFTM	incremental trim angle of attack due to increasing fillet leading edge sweep angle
	CPC	cavity pressure coefficient
	CPB	base pressure coefficient



## INTRODUCTION

The NASA Langley Research Center has recently initiated both an experimental and analytical program to study the aerodynamic characteristics of irregular planform wings having application to space shuttle orbiter design. The benefits to be derived from the use of an irregular planform wing (also referred to as a cranked leading-edge wing (ref. 1) or a double delta wing (ref. 2)) for shuttle application are primarily directed to: (1) the subsonic landing configuration in that linearization of the lift-curve slope to high angles of attack beyond that specified for landing greatly reduces landing speed or minimizes wing area for specified weight and landing velocity; and (2) the required hypersonic trim angle and stability (displacement, mass-range or heating constraints) can be achieved by slight alteration in the forward portion of the irregular planform wing without greatly altering the desired subsonic characteristics. This forward portion is herein referred to as a fillet, according to the connotations given in reference 3. Because subsonic and hypersonic conditions are the two prime areas of concern in the present application of wing-fillet combinations, this study has been designated the Subsonic/Hypersonic Irregular Planforms Study (SHIPS).

The presently initiated experimental program addresses itself to the determination of the aerodynamic characteristics of a systematic series of wing-fillet combinations which will include subsonic, transonic, low to high supersonic, and hypersonic Mach numbers; since

it is the purpose of the overall study not only to provide experimental aerodynamic information at the desired design points but to indicate any off-design penalties which may negate the selection of a near optimum wing-fillet combination from purely subsonic/hypersonic considerations. For example, excessive transonic pitch-up or adverse effects on directional stability in Mach number areas where inherent vehicle aerodynamics are expected to suffice (i.e. no reaction jet controls required) would certainly warrant a reconsideration of the selected combination.

The second portion of the study involves the development of simplified analytical tools or boundaries which may be employed by the engineer both during pre-design iterations for a specific mission or during development of a vehicle, in that these empirical and simplified analytical tools may be used to perturbate small vehicular changes with confidence and without resorting to wind tunnel verification until a near-optimum configuration is conceived. It is the intent of the present study to provide information boundaries (based on experimental results) regarding the attainment of linearized subsonic lift (ref. 2) with the avoidance of pitch instabilities at high lift (ref. 4) as well as determine the effects of wing-fillet combinations on lateral-directional stability. The hypersonic aerodynamics regarding trim and stability have been presented in the initial experimental portion of the overall SHIPS investigation in reference 5.

It is the purpose of the present paper to present the supersonic aerodynamic characteristics at Mach numbers of 2.36, 2.86, 3.96, and 4.63 on a series of fillets with sweep angles up to  $78^\circ$  on one of the three wing designs presented in reference 5. The initial study included three basic wing designs: the LO-100, a  $53.2^\circ$  cropped delta wing (refs. 6, 7 and 8); an optimal design from an analytical program (ODIN) having a  $46.8^\circ$  sweep, designated W-33 (ref. 9); and the MSC-049, a  $35^\circ$  trapezoidal wing (ref. 10). However, only data for the W-33 wing has been obtained for this report. The data were obtained at a Reynolds number (depending on Mach number) of  $1.5 \times 10^6$  to  $2.5 \times 10^6$  per foot over an angle-of-attack range of  $-2^\circ$  to  $44^\circ$  at  $0^\circ$  and  $3^\circ$  of sideslips. The effect of body base flap and rudder flare angle was investigated for the configuration with the  $75^\circ$  fillet.

## CONFIGURATIONS INVESTIGATED

The fuselage for the present investigation was a 0.01875 scale version of the LO-100 Orbiter Concept (ref. 6). The fuselage had a maximum cross-sectional area somewhat in excess of the minimum required to house the 15 foot diameter payload bay. This was done to allow for some body base boattailing to reduce subsonic base drag and improve aerodynamic performance. The fuselage forebody incorporated an unswept nose (positive camber) to produce near zero or positive pitching moment at zero angle of attack at hypersonic speeds. A body base flap was also included to shield the main engines during entry and also as a hypersonic control device. The overall body length, excluding the base flap, was 1350 inches.

The LO-100 wing (fig. 2(a)) had a  $53.2^\circ$  leading-edge sweep, unswept trailing edge, taper ratio of 0.15, aspect ratio of 2.212, NACA 0006 airfoil section at the theoretical root with  $1^\circ$  of incidence, and NACA 0012 airfoil section at the tip with  $-4^\circ$  incidence. The W-33 wing (fig. 2(b)) had a  $46.8^\circ$  leading edge sweep,  $-11.2^\circ$  trailing edge sweep, taper ratio of 0.135, aspect ratio of 2.415, NACA 0008 airfoil section at the theoretical root, NACA 0012 airfoil section at the tip, and a  $1.5^\circ$  incidence. The MSC 049 wing (fig. 2(c)) had a  $35^\circ$  leading-edge sweep,  $-19.6^\circ$  trailing edge sweep, taper ratio of 0.2, aspect ratio of 2.525, NACA 0008 airfoil section, and a  $1.5^\circ$  incidence. A more detailed description of the model components is listed in Table III.

The longitudinal location of each wing on the fuselage was selected to produce a wing-fillet intersection at 0.62 of the body reference length with a spanwise intersection at 0.176 of the body reference length. Fillet sweeps to  $78^{\circ}$  (Table IV) were investigated on the W-33 wing only while holding the spanwise intersection of the fillet and wing constant.

### TEST FACILITY DESCRIPTION

The NASA LRC 4 foot Unitary Plan Wind Tunnel (UPWT) is a closed-circuit, continuous flow, variable density facility. The test section is 4 feet by 4 feet by 7 feet long.

Two tunnel legs are available for supersonic testing in the Mach number ranges 1.47 to 2.86 (Leg No. 1) and 2.29 to 4.63 (Leg No. 2). Both tunnel legs were used for this test. An asymmetric, sliding block nozzle position and total pressure setting provide the test Mach numbers at a specified Reynolds number. Reynolds number can be varied from 0.76 to 7.78 million per foot. Available stagnation pressure variation is 4.0 to 142. psia. Dynamic pressure variation is 95. to 1260. psf with normal operating stagnation temperature about 150°F in Mach modes 2 or 3 and about 175°F in Mach mode 4. The tunnel is equipped with a dry air supply, an evacuating system, and a cooling system. The facility power is approximately 83,000 horsepower.

Model mounting provisions consist of various sting arrangements, including axial (longitudinal), lateral (independent pitch and yaw), and roll movement with side wall support. A Schlieren system and oil flow visualization equipment are available. Data are recorded at the tunnel and reduced off-line at the Langley Computer Center. The tunnel is used for force and moment, pressure, and dynamic stability tests. Hot and cold jet effects and heat transfer have been studied in the UPWT.

### TEST CONDITIONS

Tunnel conditions existing during the tests are summarized in Table I (Test Conditions). The model was sting supported and the aerodynamic forces and moments were measured by an internally mounted six-component strain-gage balance. Model angle of attack was varied from about  $-2^\circ$  to  $44^\circ$  at sideslip angles of  $0^\circ$  and  $3^\circ$ .

### DATA REDUCTION

The aerodynamic forces and moments have been reduced to coefficient form based on the following reference values:

WING NO. 2 (W-33)

$S_{ref}$  = total or theoretical wing projected area = 171.4720 sq. in.

$l_{ref}$  = body length = 25.510 in.

$b_{ref}$  = total wing span = 20.3597 in.

The moments have been reduced about a center of gravity located at 66 percent of the fuselage length. This point is:

Fus. Sta. = 16.8366 inches

Water line = 0.0 (centerline of payload bay)

Body line = 0.0

All data are presented as uncorrected for model base pressure effects; however, base pressure coefficients are presented for both the base and cavity regions. Transition strips 1/16 inch wide composed of No. 120 sand grit were located 1.0 inch aft of the apex of the nose and 0.5 inch (measured in the streamwise direction) on the wing, fillet, and vertical tail.

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10. Spencer, Bernard, Jr., and Ware, George M.: Low Subsonic Aerodynamic Characteristics of a Shuttle Orbiter Having 35° Trapezoidal Wing and 75° Inboard Glove. NASA TMX-2701, January 1973.



**TABLE I.**  
**TEST CONDITIONS**

[illegible]

**BALANCE UTILIZED:** LaRC 832-C

**CAPACITY:**

NF	<u>1000</u>	<u>1b.</u>
SF	<u>250</u>	<u>1b.</u>
AF	<u>85</u>	<u>1b.</u>
PM	<u>2000</u>	<u>1n-1b.</u>
YM	<u>1000</u>	<u>1n-1b.</u>
RM	<u>500</u>	<u>1n-1b.</u>

### ACCURACY :

+ 5.000 lb.  
+ 1.250 lb.  
+ .425 lb.  
+ 10.000 in.-lb.  
+ 5.000 in.-lb.  
+ 2.500 in.-lb.

**COEFFICIENT  
TOLERANCE:**

[illegible]

**COMMENTS :**

TABLE II.

TEST: UPWT 1015

DATE: 9/26/73

DATA SET/RUN NUMBER COLLATION SUMMARY

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES					NO. OF RUNS	MACH NUMBERS					TEST RUN NUMBERS
		$\alpha$	$\beta$	WING	$\Delta F$	$\Delta \epsilon$	SRE	2.8		2.86	3.96	4.63			
RP8001	BW2VFB	A	0	2	46.8	0	0			34	36	38	40		
02		T	3	T	46.8	T	T			35	37	39	41		
03			0		55					44	45	42	43		
04			0		60					36	31	32	33		
05			0		65					26	28	22	24		
06			3		65					27	29	23	25		
07			0		70					18	17	20	21		
08			0		75					13	15	16	17		
09			3		75					14					
10			0		78					5	7	9	11		
11			3		78					6	8	10	12		
12			0		75		40			46	48	50	52		
13			3		75		40			47	49	51	53		
14			0		75	-10	40			58	60	54	56		
15			3		75	-10	40			59	61	55	57		
16			0		75	-10	0			62	64	66	68		
17			3		75	-10	0			63	65	67	69		

75 76

67

61

55

49

43

37

31

25

19

13

7

10/AR (1)

11/AR (2)

NDV

$\alpha$  OR  $\beta$

SCHEDULES

A)  $-2^\circ \rightarrow 44^\circ$

COEFFICIENTS

TABLE 111.-MODEL COMPONENT DIMENSIONAL DATA

MODEL COMPONENT: BODY - BGENERAL DESCRIPTION: .01875 scale of LO-100 orbiter concept (DMS-DR-2023)DRAWING NUMBER: \_\_\_\_\_DIMENSIONS:

	<u>FULL-SCALE</u> In. or In <sup>2</sup>	<u>MODEL SCALE</u> In.
Length	<u>1350</u>	<u>25.510</u>
Max. Width	<u>252.0</u>	<u>4.725</u>
Max. Depth	<u>231.0</u>	<u>4.331</u>
Fineness Ratio	_____	_____
Area		
Max. Cross-Sectional	_____	_____
Planform	_____	_____
Wetted	_____	_____
Base	_____	_____

TABLE III.--(CONTINUED)

MODEL COMPONENT: WING - W1 (LO-100 WING)GENERAL DESCRIPTION: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DRAWING NUMBER: \_\_\_\_\_

DIMENSIONS:FULL-SCALE  
in. or in.<sup>2</sup>MODEL SCALETOTAL DATA

Area	499,824	175.7376
Planform	_____	_____
Wetted	1051.512	19.7156
Span (equivalent)	2.212	2.212
Aspect Ratio	_____	_____
Rate of Taper	.15	.15
Taper Ratio	7.0°	7.0°
Dihedral Angle, degrees	+ 1° root, -4° tip	+ 1° root, -4° tip
Incidence Angle, degrees	_____	_____
Aerodynamic Twist, degrees	_____	_____
Toe-In Angle	_____	_____
Cant Angle	_____	_____
Sweep Back Angles, degrees	53.2°	53.2°
Leading Edge	0.0°	0.0°
Trailing Edge	_____	_____
0.25 Element Line	_____	_____
Chords:	326.8	15.502
Root (Wing Sta. 0.0)	124.02	2.325
Tip, (equivalent)	561.984	10.537
MAC	928.508	17.410
Fus. Sta. of .25 MAC	_____	_____
W.P. of .25 MAC	_____	_____
B.L. of .25 MAC	_____	_____
Airfoil Section	NACA 0006-64	_____
Root	NACA 0012-64	_____
Tip	_____	_____

EXPOSED DATA

Area	_____	_____
Span, (equivalent)	_____	_____
Aspect Ratio	_____	_____
Taper Ratio	_____	_____
Chords	_____	_____
Root	_____	_____
Tip	_____	_____
MAC	_____	_____
Fus. Sta. of .25 MAC	_____	_____
W.P. of .25 MAC	_____	_____
B.L. of .25 MAC	_____	_____

TABLE III.--(CONTINUED)

MODEL COMPONENT: WING - W2 (WING - 33)GENERAL DESCRIPTION: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DRAWING NUMBER: \_\_\_\_\_

DIMENSIONS:

FULL-SCALE  
in. or in.<sup>2</sup>MODEL SCALE  
in. or in.<sup>2</sup>TOTAL DATA

Area

487,742.7

171.472

Planform

-----

-----

Wetted

1085.85

20.3597

Span (equivalent)

2.4154

2.4154

Aspect Ratio

-----

-----

Rate of Taper

.13465

.13465

Taper Ratio

7.0°

7.0°

Dihedral Angle, degrees

1.5°

1.5°

Incidence Angle, degrees

None

None

Aerodynamic Twist, degrees

-----

-----

Toe-In Angle

-----

-----

Cant Angle

Sweep Back Angles, degrees

46.825°

46.825°

Leading Edge

-11.154

-11.154°

Trailing Edge

-----

-----

0.25 Element Line

Chords:

792.091

14.8517

Root (Wing Sta. 0.0)

106.667

2.0000

Tip, (equivalent)

536.520

10.0600

MAC

-----

-----

Fus. Sta. of .25 MAC

-----

-----

W.P. of .25 MAC

-----

-----

B.L. of .25 MAC

-----

-----

Airfoil Section

NACA

0008-64

NACA 0008-64

Root

NACA

0012-64

NACA 0012-64

Tip

EXPOSED DATA

Area

Span, (equivalent)

Aspect Ratio

Taper Ratio

Chords

Root

Tip

MAC

Fus. Sta. of .25 MAC

W.P. of .25 MAC

B.L. of .25 MAC

TABLE III.-(CONTINUED)

MODEL COMPONENT: WING - W3 (MSC 049 WING)GENERAL DESCRIPTION: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DRAWING NUMBER: \_\_\_\_\_

DIMENSIONS:

FULL-SCALE  
In. or In.<sup>2</sup>MODEL SCALE  
In. or In.<sup>2</sup>TOTAL DATA

Area	492,462.1	173.1312
Planform	-----	-----
Wetted	1115.2	20.9096
Span (equivalent)	2.525	2.525
Aspect Ratio	-----	-----
Rate of Taper	.200	.200
Taper Ratio	7°	7°
Dihedral Angle, degrees	1.5°	1.5°
Incidence Angle, degrees	None	None
Aerodynamic Twist, degrees	-----	-----
Toe-In Angle	-----	-----
Cant Angle	-----	-----
Sweep Back Angles, degrees	35°	35°
Leading Edge	-19.6°	-19.6°
Trailing Edge	-----	-----
0.25 Element Line	-----	-----
Chords:	735.084	13.8016
Root (Wing Sta. 0.0)	147.114	2.7584
Tip, (equivalent)	-----	-----
MAC	-----	-----
Fus. Sta. of .25 MAC	-----	-----
W.P. of .25 MAC	-----	-----
B.L. of .25 MAC	-----	-----
Airfoil Section	NACA 0008-64	NACA 0008-64
Root	"	"
Tip	-----	-----

EXPOSED DATA

Area  
Span, (equivalent)  
Aspect Ratio  
Taper Ratio  
Chords  
Root  
Tip  
MAC  
Fus. Sta. of .25 MAC  
W.P. of .25 MAC  
B.L. of .25 MAC

TABLE III.-(CONTINUED)

MODEL COMPONENT: Vertical Tail-VGENERAL DESCRIPTION: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DRAWING NUMBER: \_\_\_\_\_

DIMENSIONS:FULL-SCALE  
In. or In.<sup>2</sup>MODEL SCALE  
In. or In.<sup>2</sup>TOTAL DATA

Area	69,836	24.552
Planform	-----	-----
Wetted	396.168	6.922
Span	1.414	1.414
Aspect Ratio	-----	-----
Rate of Taper	.412	.412
Taper Ratio	-----	-----
Diehedral Angle, degrees	-----	-----
Incidence Angle, degrees	-----	-----
Aerodynamic Twist, degrees	-----	-----
Toe-In Angle	-----	-----
Cant Angle	-----	-----
Sweep Back Angles, degrees	45°	45°
Leading Edge	25°	25°
Trailing Edge	-----	-----
0.25 Element Line	-----	-----
Chords:	288.0	5.400
Root (Wing Sta. 0.0)	90.347	1.694
Tip, (equivalent)	-----	-----
MAC	-----	-----
Fus. Sta. of .25 MAC	-----	-----
W.P. of .25 MAC	-----	-----
B.L. of .25 MAC	-----	-----
Airfoil Section	NACA 0012-64	NACA 0012-64
Root	"	"
Tip	-----	-----

EXPOSED DATA

Area	-----	-----
Span, (equivalent)	-----	-----
Aspect Ratio	-----	-----
Taper Ratio	-----	-----
Chords	-----	-----
Root	-----	-----
Tip	-----	-----
MAC	-----	-----
Fus. Sta. of .25 MAC	-----	-----
W.P. of .25 MAC	-----	-----
B.L. of .25 MAC	-----	-----

TABLE III --(CONCLUDED)

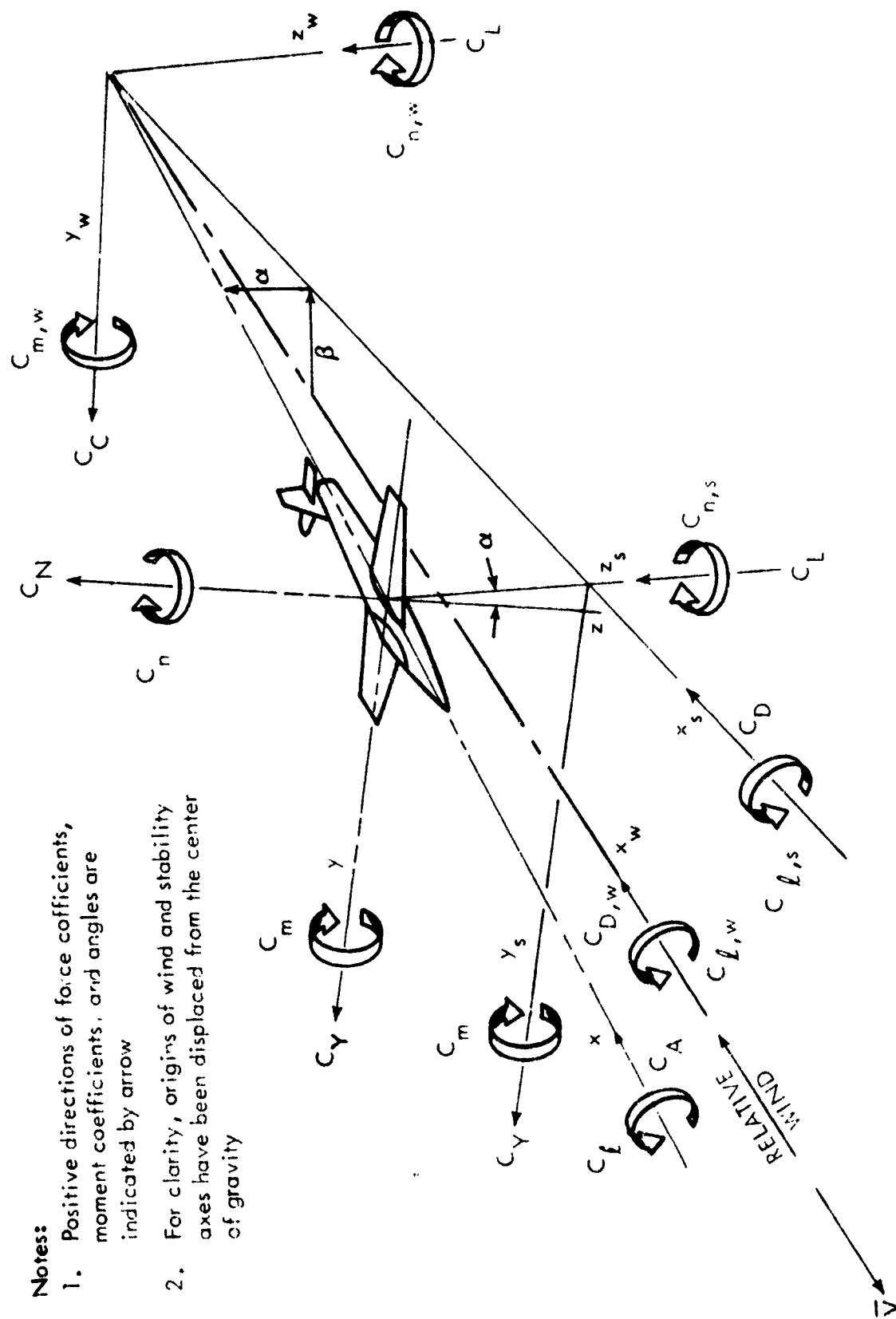
MODEL COMPONENT: BODY FLAP - FBGENERAL DESCRIPTION: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_DRAWING NUMBER: \_\_\_\_\_DIMENSIONS:

	<u>FULL-SCALE</u> in. or in. <sup>2</sup>	<u>MODEL SCALE</u> in. or in. <sup>2</sup>
Area	<u>9160.0</u>	<u>3.220</u>
Span (equivalent)	<u>892.0</u>	<u>4.725</u>
Inb'd equivalent chord	<u>79.65</u>	<u>1.493</u>
Outb'd equivalent chord	<u>79.65</u>	<u>1.493</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>---</u>	<u>---</u>
At Outb'd equiv. chord	<u>---</u>	<u>---</u>
Sweep Back Angles, degrees		
Leading Edge	<u>---</u>	<u>---</u>
Tailing Edge	<u>---</u>	<u>---</u>
Hingeline	<u>---</u>	<u>---</u>
Area Moment (Normal to hinge line)	<u>---</u>	<u>---</u>



TABLE IV. - PLANFORM AREA OF FILLETS

WING NUMBER	$\Delta_f$ (degrees)	$S_f/S_{REF}$	$S_{REF}$ (inches <sup>2</sup> )
1 (LO-100)	78	.382	<div> <div>175.7376</div> <div>↓</div> </div>
	75	.272	
	70	.161	
	65	.093	
	60	.046	
	55	.012	
2 (W-33)	78	.421	<div> <div>171.4720</div> <div>↓</div> </div>
	75	.309	
	70	.195	
	65	.125	
	60	.078	
	55	.043	
	50	.015	
3 (MSC-049)	78	.459	<div> <div>173.1312</div> <div>↓</div> </div>
	75	.348	
	70	.235	
	65	.166	
	60	.119	
	55	.084	
	50	.057	
	45	.035	



**Notes:**

1. Positive directions of force coefficients, moment coefficients, and angles are indicated by arrow
2. For clarity, origins of wind and stability axes have been displaced from the center of gravity

Figure 1. - Axis Systems.

Technical drawing of a vertical tail airfoil section, showing plan and side views with dimensions and labels.

**Plan View (Left):**

- Overall width: .620
- Distance from leading edge to center of gravity: .388
- Distance from center of gravity to trailing edge: .176
- Trailing edge thickness: .059
- Trailing edge radius: .093
- Angle at trailing edge:  $53.2^\circ$
- Root thickness: .025
- Tip thickness: .092
- Angle at root:  $1^\circ$
- Angle at tip:  $7^\circ$
- Angle at trailing edge:  $\delta_{bf}$
- Angle at trailing edge:  $f^\circ$
- Angle at trailing edge:  $x/l = .016$
- Angle at trailing edge: .074
- Angle at trailing edge: .175
- Angle at trailing edge: .222
- Angle at trailing edge: .593
- Angle at trailing edge: .842
- Angle at trailing edge: .975

**Side View (Right):**

- Overall height: .660
- Distance from leading edge to center of gravity: .762
- Distance from center of gravity to trailing edge: .273
- Trailing edge thickness: .096
- Trailing edge radius: .085
- Trailing edge radius: .093
- Angle at trailing edge:  $25^\circ$
- Angle at trailing edge:  $45^\circ$
- Angle at trailing edge:  $x/l = 1.000$

**Labels:**

- Root: 0006-64
- Tip: 0012-64
- Vertical tail 0012-64

**Notes:**

- All dimensions are nor with respect to body 1 (1350 in.)
- LO-100 airfoil sections

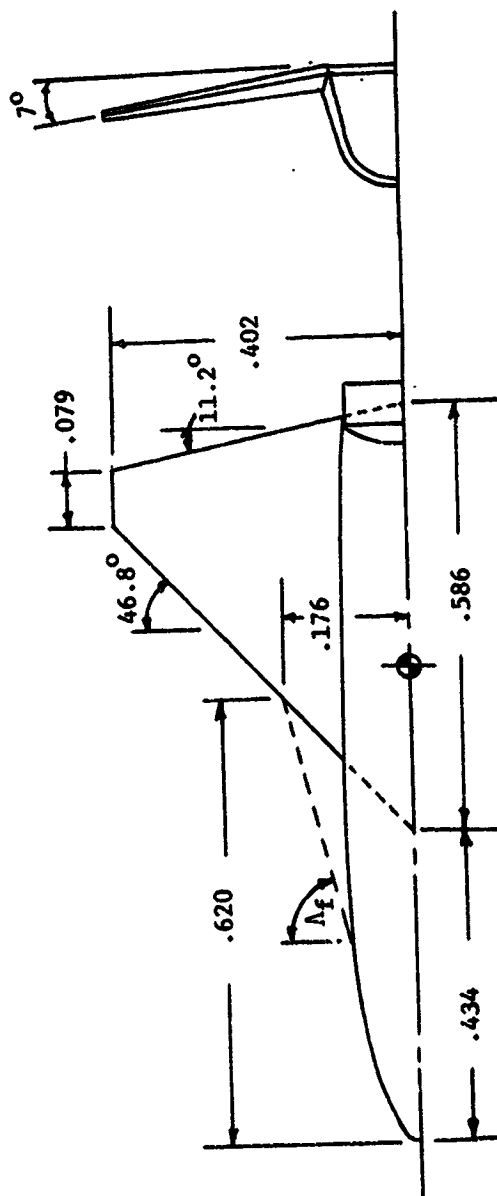
### LO-100 airfoil sections

Root: 0006-64  
Tip: 0012-64

**Vertical tail**  
**0012-64**

(a) Wing Number 1 (LO-100)

Figure 2. - Sketch of Models Used in Investigation.

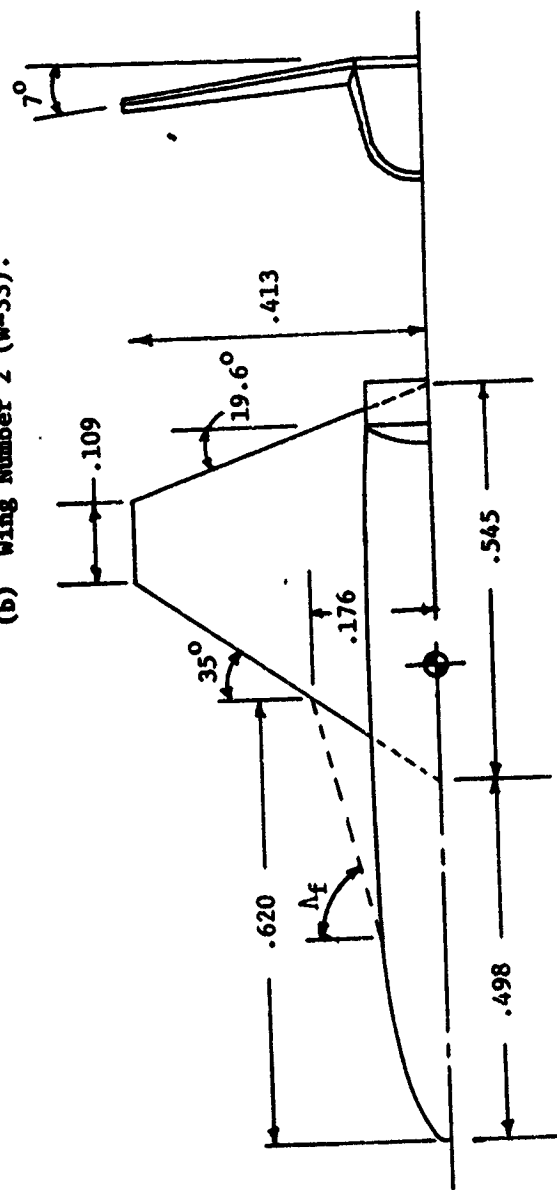


W-33 airfoil sections

Root: 0008-64  
Tip: 0012-64

Incidence:  $1.5^\circ$

(b) Wing Number 2 (W-33).



MSC 049 airfoil sections

Root: 0008-64  
Tip: 0008-64

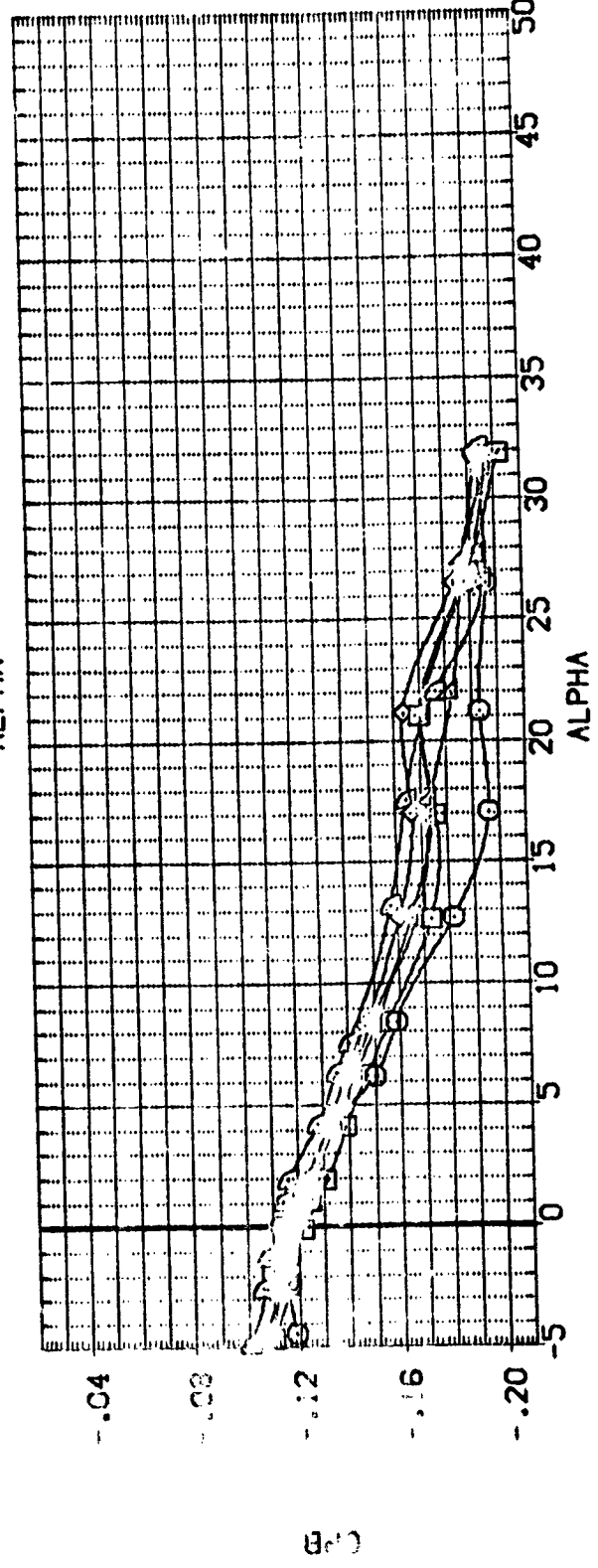
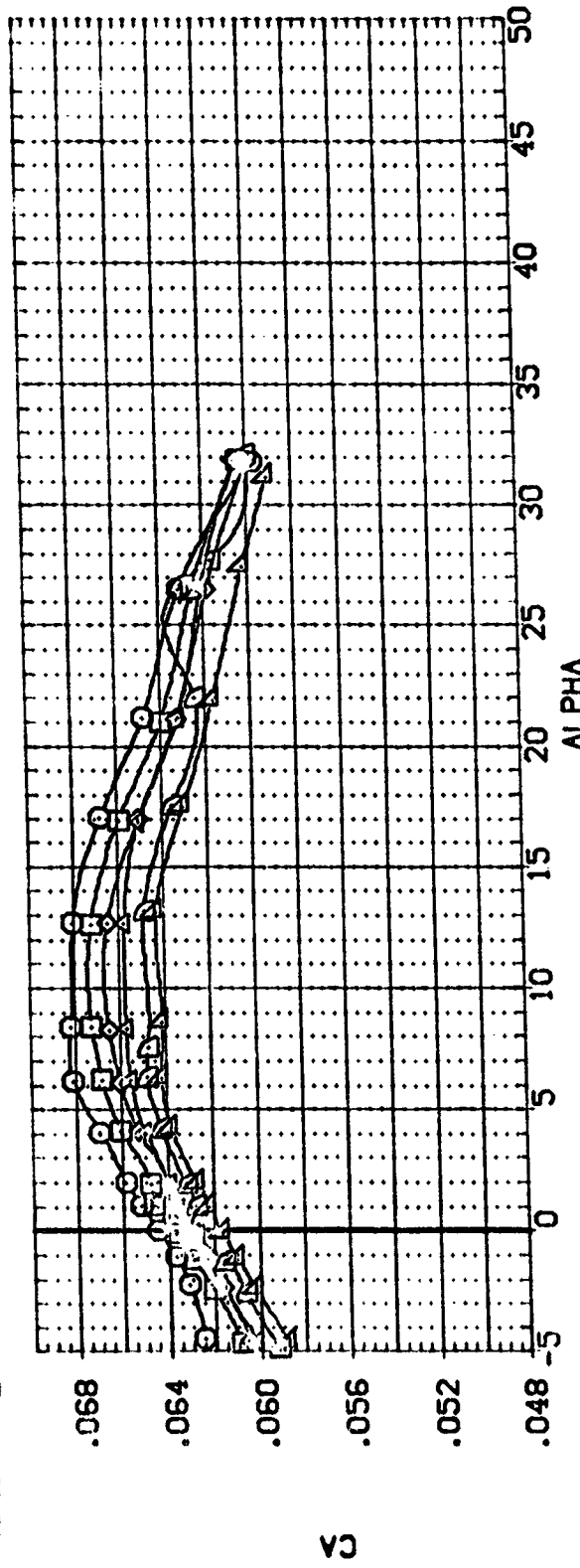
Incidence:  $1.5^\circ$

(c) Wing Number 3 (MSC-049).

Figure 2. - Concluded.

DATA FIGURES

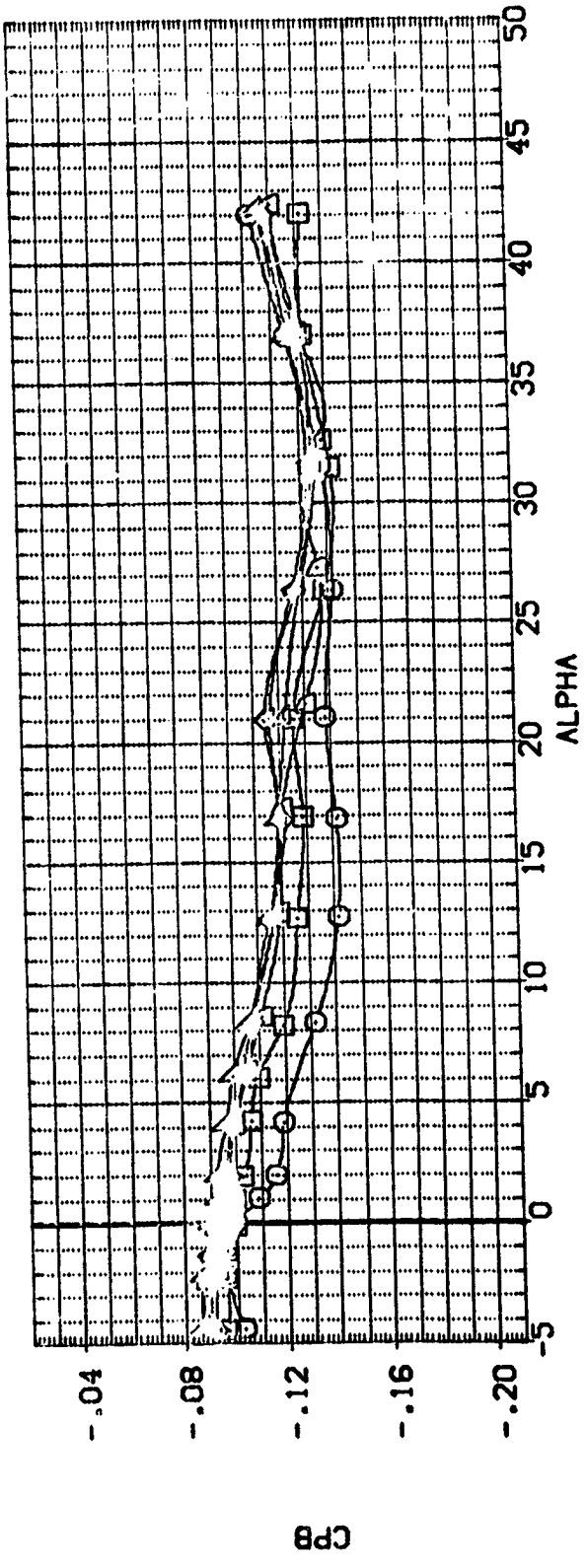
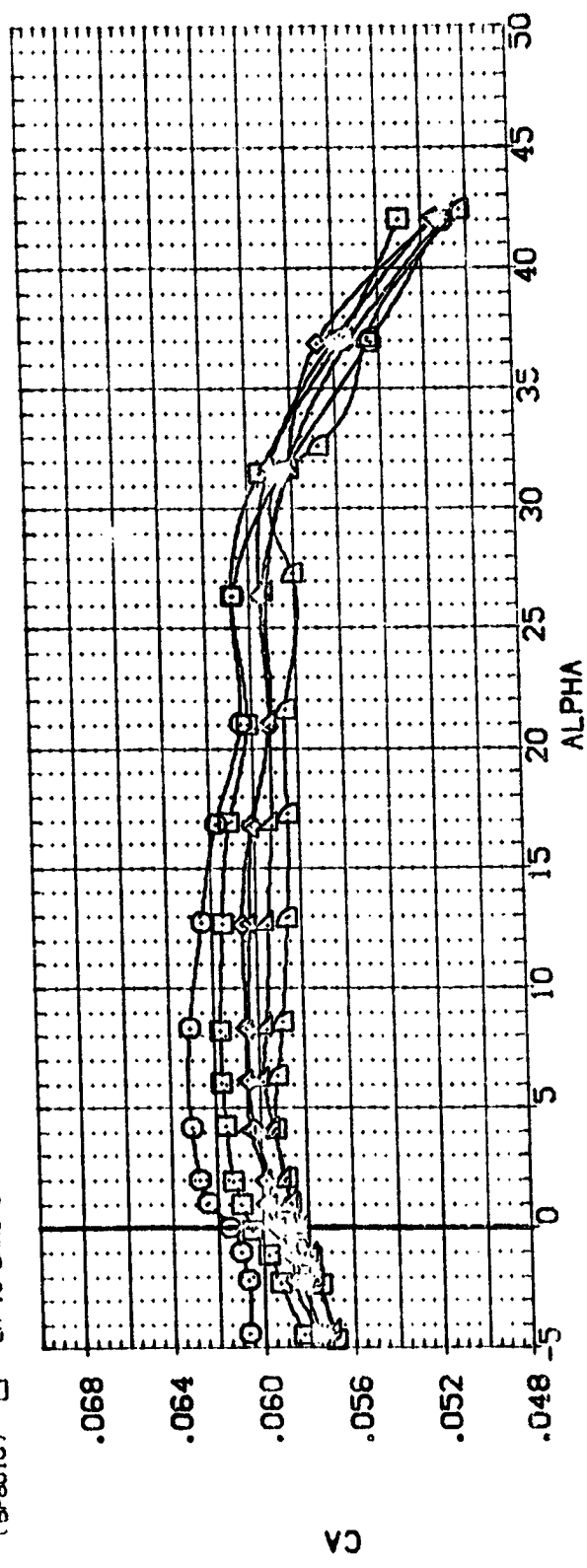
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	BETA	VINGAO	ELEVTR	REFERENCE INFORMATION	50 IN.
(B-8001)	LA-10 LARC UPVT 1015 LO-100	46.8°	.000	2.000	.000	SREF 171.4720	INCHES
(B-8002)	LA-10 LARC UPVT 1015 LO-100	50.000	.000	2.000	.000	LREF 25.5100	INCHES
(B-8003)	LA-10 LARC UPVT 1015 LO-100	55.000	.000	2.000	.000	BREF 20.3597	INCHES
(B-8004)	LA-10 LARC UPVT 1015 LO-100	60.000	.000	2.000	.000	YARP 16.8366	INCHES
(B-8005)	LA-10 LARC UPVT 1015 LO-100	70.000	.000	2.000	.000	YARP .0000	INCHES
(B-8006)	LA-10 LARC UPVT 1015 LO-100	75.000	.000	2.000	.000	YARP .0000	INCHES
(B-8007)	LA-10 LARC UPVT 1015 LO-100	78.000	.000	2.000	.000	SCALE .0188	SCALE



EFFECT OF FILLET ON WING (BW2VFB)

(A)MACH = 2.36

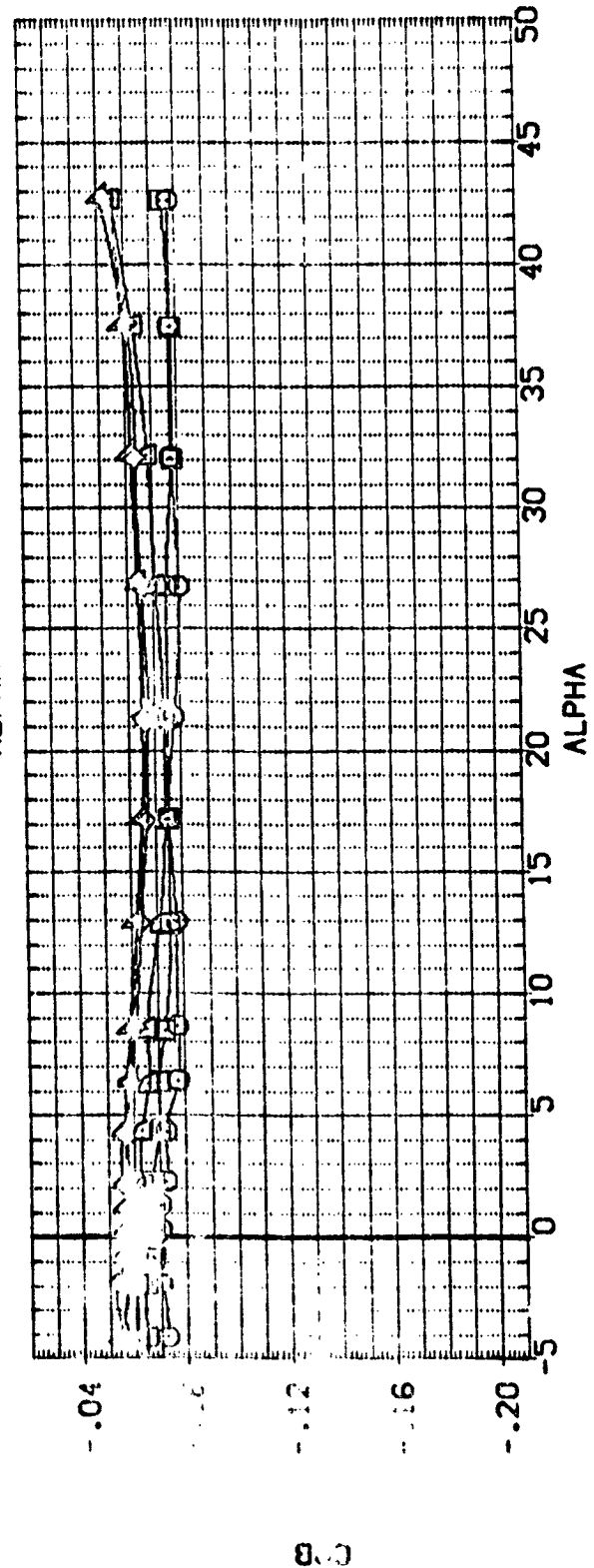
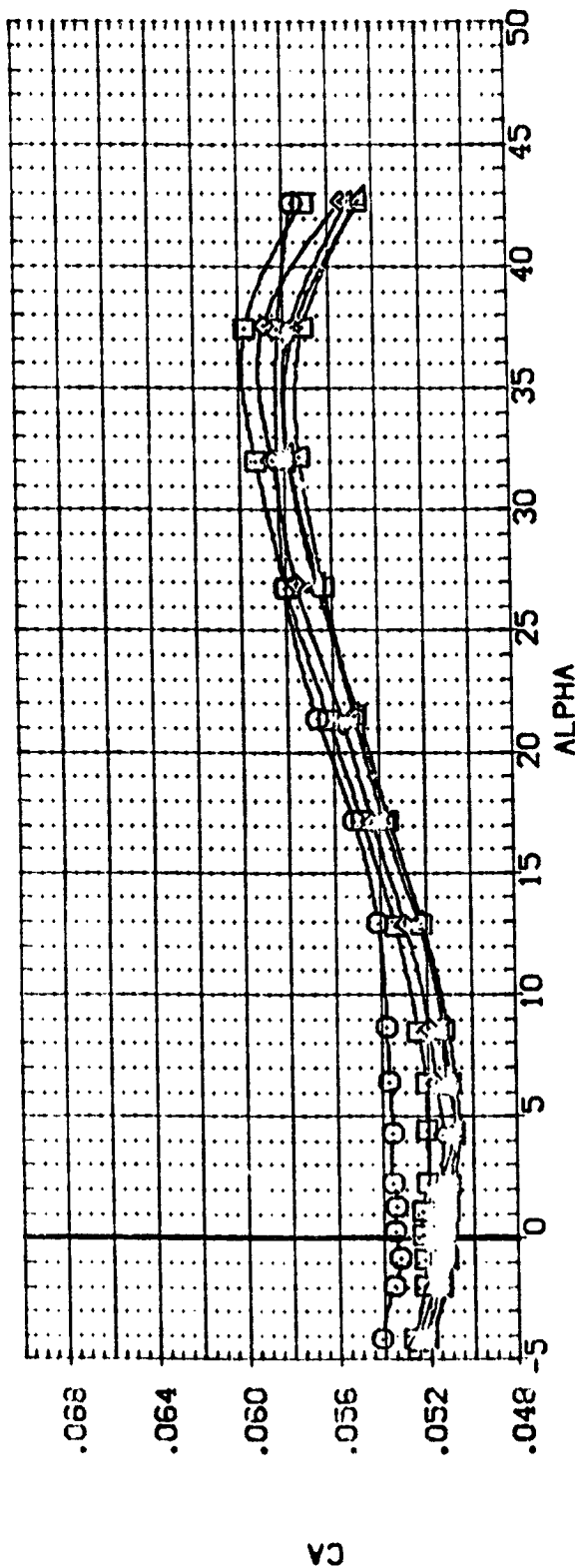
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	BETA	VINGNO	ELEVTR	REFERENCE INFORMATION
(BP8001)	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS)	46.800	.000	2.000	.000	SREF 171.4720 SQ. IN.
(BP8004)	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS)	60.000	.000	2.000	.000	LREF 25.5100 INCHES
(BP8005)	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS)	65.000	.000	2.000	.000	BREF 20.3597 INCHES
(BP8007)	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS)	70.000	.000	2.000	.000	YMRP 16.8365 INCHES
(BP8008)	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS)	75.000	.000	2.000	.000	ZMRP .0000 INCHES
(BP8010)	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS)	78.000	.000	2.000	.000	SCALE 0.188



EFFECT OF FILLET ON WING (BW2VFB)

(B)MACH = 2.86

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LAYDIF	BETA	VINGNO	ELEVTR	REFERENCE INFORMATION
BP8001	LA-10 LARC UPVT 1015 LO-100 DBB (SHIPS) (BV2VFB)	46.800	.000	2.000	.000	SREF 171.4720 SC.IN
BP8004	LA-10 LARC UPVT 1015 LO-100 DBB (SHIPS) (BV2VFB)	60.000	.000	2.000	.000	LREF 25.5100 INCHES
BP8005	LA-10 LARC UPVT 1015 LO-100 DBB (SHIPS) (BV2VFB)	65.000	.000	2.000	.000	BREF 20.3597 INCHES
BP8006	LA-10 LARC UPVT 1015 LO-100 DBB (SHIPS) (BV2VFB)	70.000	.000	2.000	.000	XYREF 16.8366 INCHES
BP8007	LA-10 LARC UPVT 1015 LO-100 DBB (SHIPS) (BV2VFB)	75.000	.000	2.000	.000	YZREF .0000 INCHES
BP8008	LA-10 LARC UPVT 1015 LO-100 DBB (SHIPS) (BV2VFB)	78.000	.000	2.000	.000	ZREF .0000 INCHES
BP8009	LA-10 LARC UPVT 1015 LO-100 DBB (SHIPS) (BV2VFB)					SCALE .0188

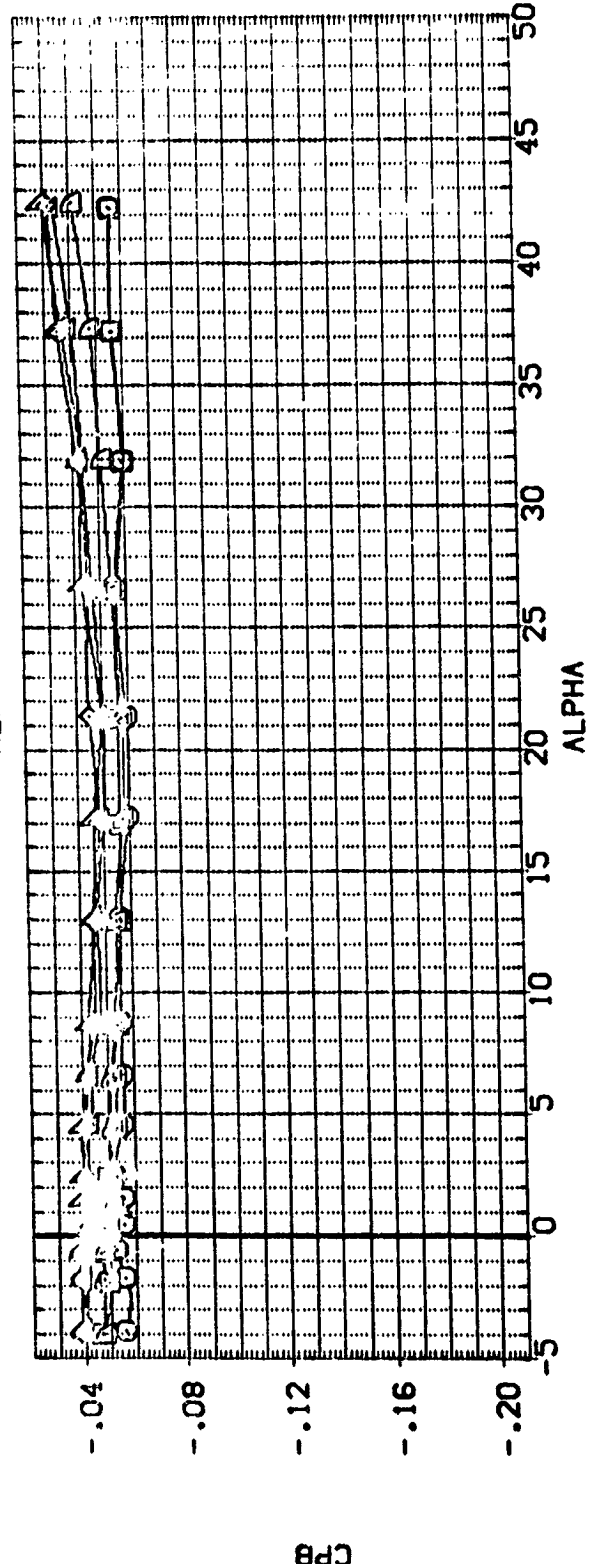
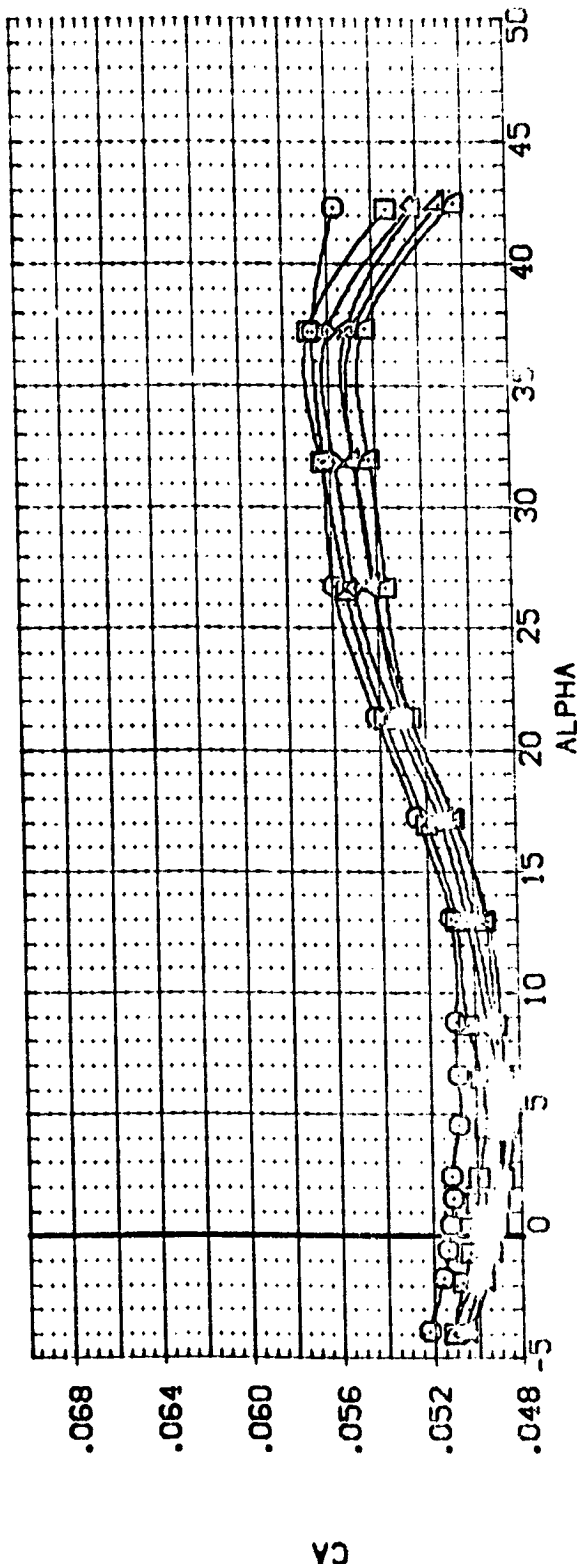


EFFECT OF FILLET ON WING (BW2VFB)

(C)MACH = 3.96



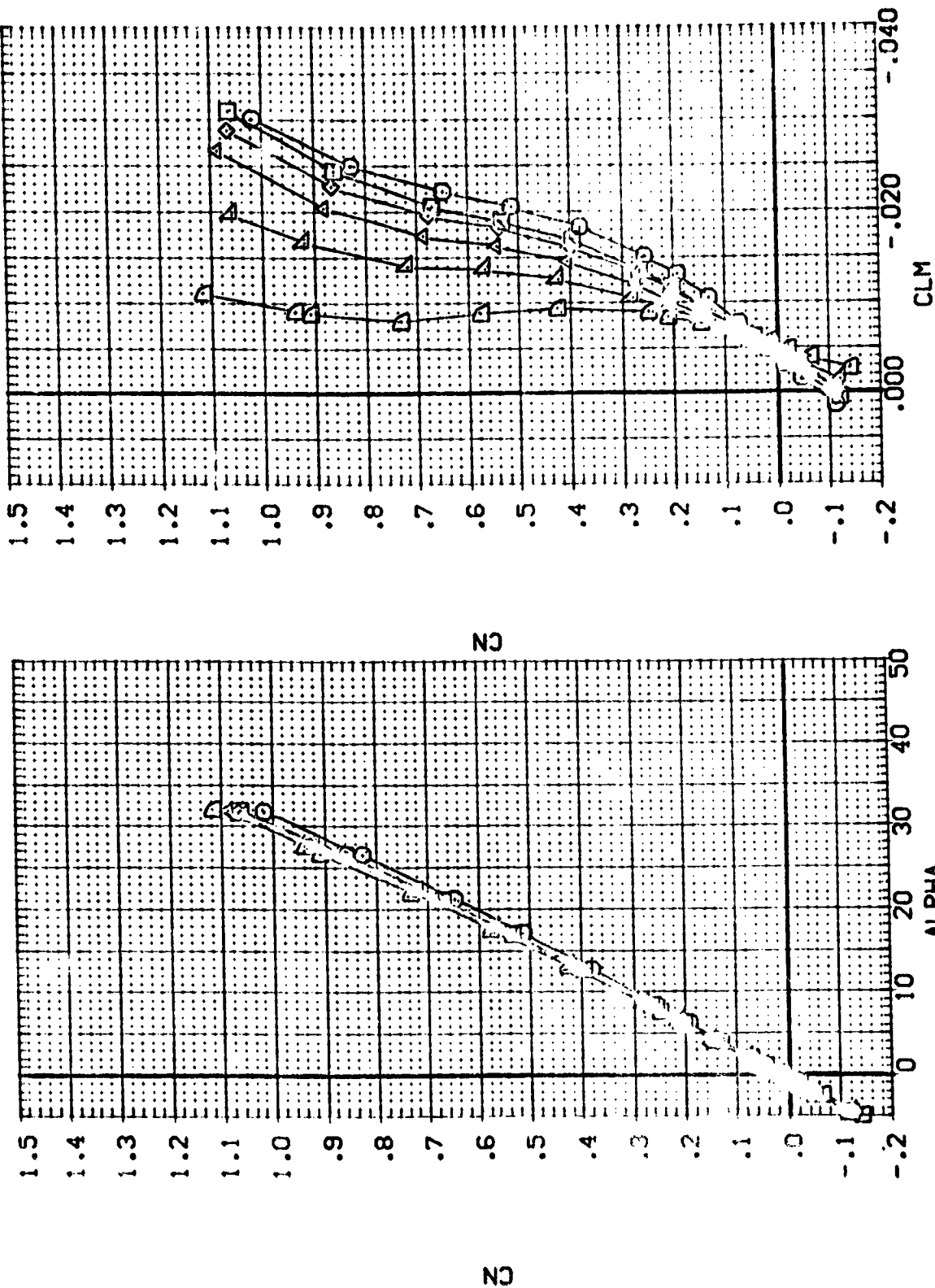
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LAMDAF	BETA	VINGNO	ELEVTR	REFERENCE INFORMATION
(BP6001)	LA-10 LARC UPVT IO15 LG-100 ORB (SHIPS) (BV2VFB)	46.800	.000	2.000	.000	SREF 171.4720 SG IN
(BP6004)	LA-10 LARC UPVT IO15 LG-100 ORB (SHIPS) (BV2VFB)	50.000	.000	2.000	.000	LREF 25.5100 INCHES
(BP6005)	LA-10 LARC UPVT IO15 LG-100 ORB (SHIPS) (BV2VFB)	65.000	.000	2.000	.000	BREF 20.3597 INCHES
(BP6007)	LA-10 LARC UPVT IO15 LG-100 ORB (SHIPS) (BV2VFB)	70.000	.000	2.000	.000	YREF 16.8356 INCHES
(BP6008)	LA-10 LARC UPVT IO15 LG-100 ORB (SHIPS) (BV2VFB)	75.000	.000	2.000	.000	ZREF .0000 INCHES
(BP6010)	LA-10 LARC UPVT IO15 LG-100 ORB (SHIPS) (BV2VFB)	78.000	.000	2.000	.000	SCALE .0188 SCALE



EFFECT OF FILLET ON WING (BW2VFB)

(C)MACH = 4.63

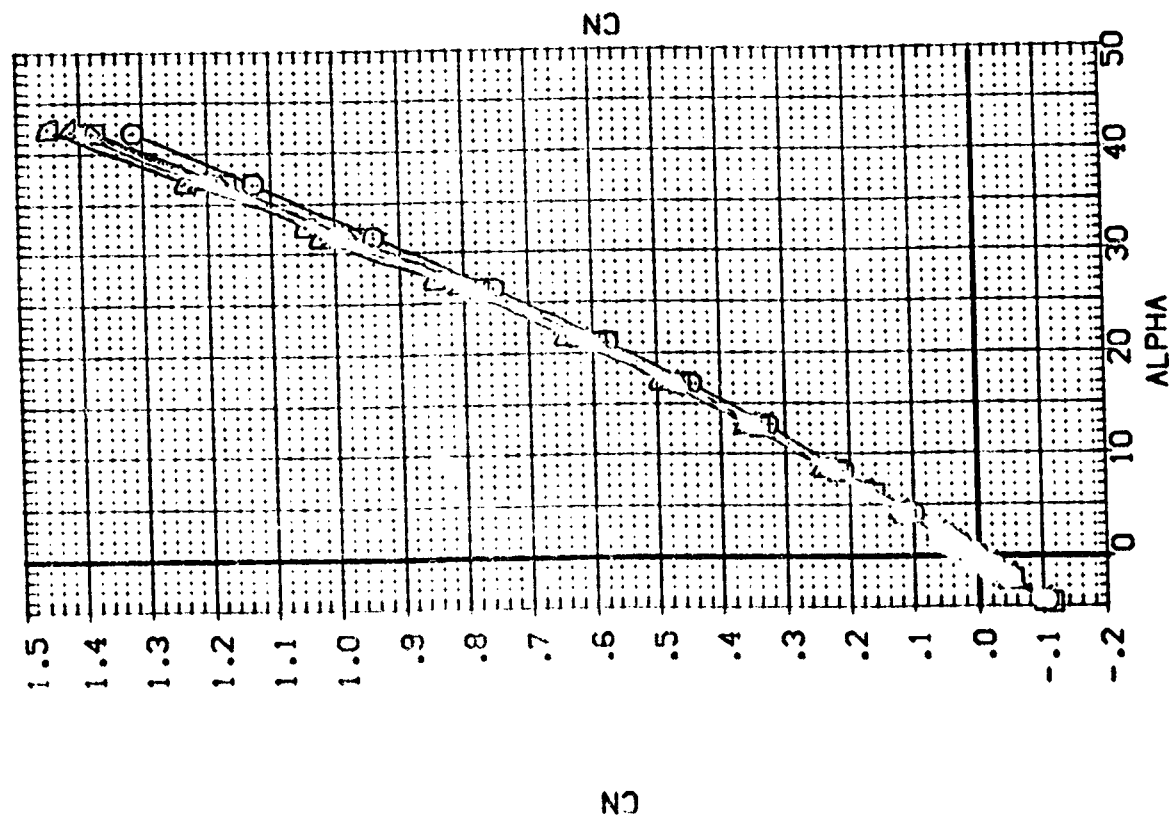
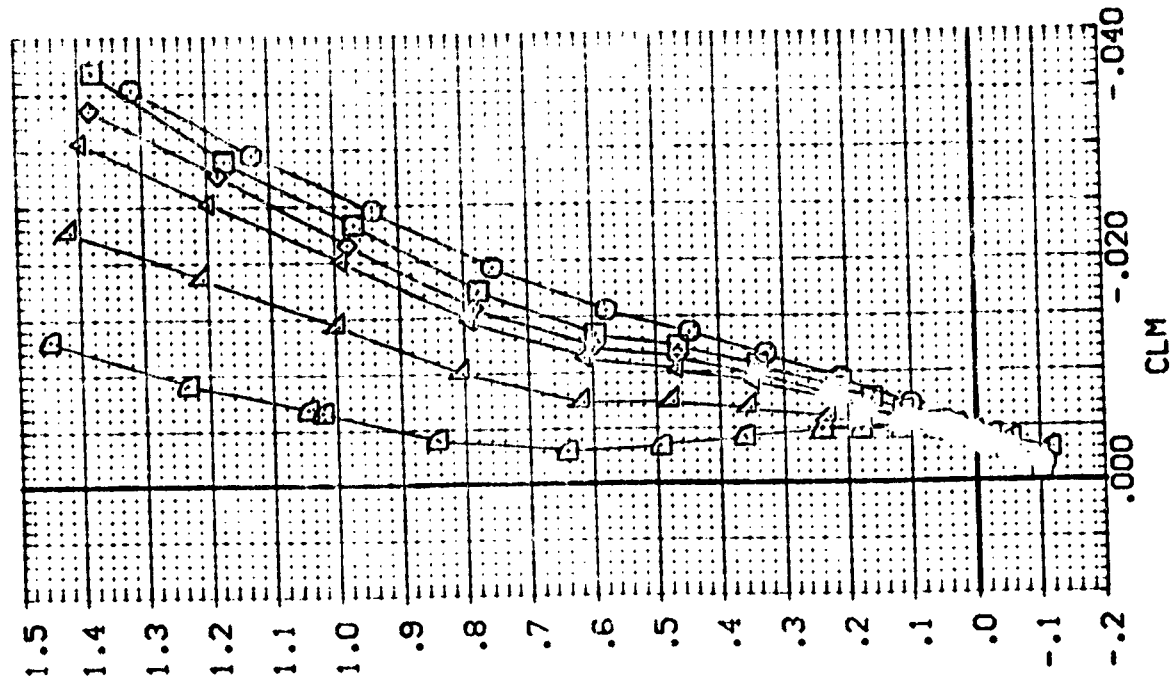
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	OR8 (SHIPS)	(BV2VFB)	LAMDAF	BETA	VINGAO	ELEVTR	REFERENCE INFORMATION
BP8001	LA-10 LARC LPVT 1015 LO-100	OR8 (SHIPS)	(BV2VFB)	46.800	.000	2.000	.000	SREF 171.4720 SQ. IN.
BP8002	LA-10 LARC LPVT 1015 LO-100	OR8 (SHIPS)	(BV2VFB)	60.000	.000	2.000	.000	171.4720 SQ. IN.
BP8003	LA-10 LARC LPVT 1015 LO-100	OR8 (SHIPS)	(BV2VFB)	65.000	.000	2.000	.000	25.5100 INCHES
BP8004	LA-10 LARC LPVT 1015 LO-100	OR8 (SHIPS)	(BV2VFB)	70.000	.000	2.000	.000	20.3597 INCHES
BP8005	LA-10 LARC LPVT 1015 LO-100	OR8 (SHIPS)	(BV2VFB)	75.000	.000	2.000	.000	16.8366 INCHES
BP8006	LA-10 LARC LPVT 1015 LO-100	OR8 (SHIPS)	(BV2VFB)	78.000	.000	2.000	.000	.0000 INCHES
BP8007	LA-10 LARC LPVT 1015 LO-100	OR8 (SHIPS)	(BV2VFB)	78.000	.000	2.000	.000	.0188 INCHES
BP8008	LA-10 LARC LPVT 1015 LO-100	OR8 (SHIPS)	(BV2VFB)	78.000	.000	2.000	.000	SCALE



EFFECT OF FILLET ON WING (BW2VFB)

(A)MACH = 2.36

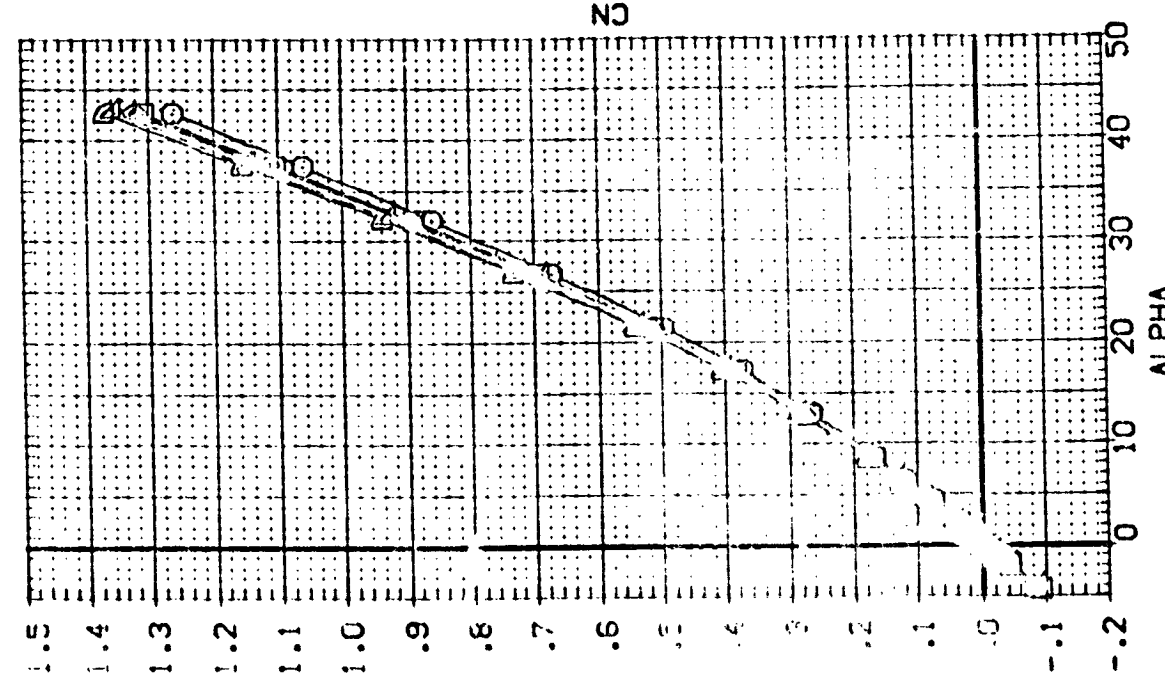
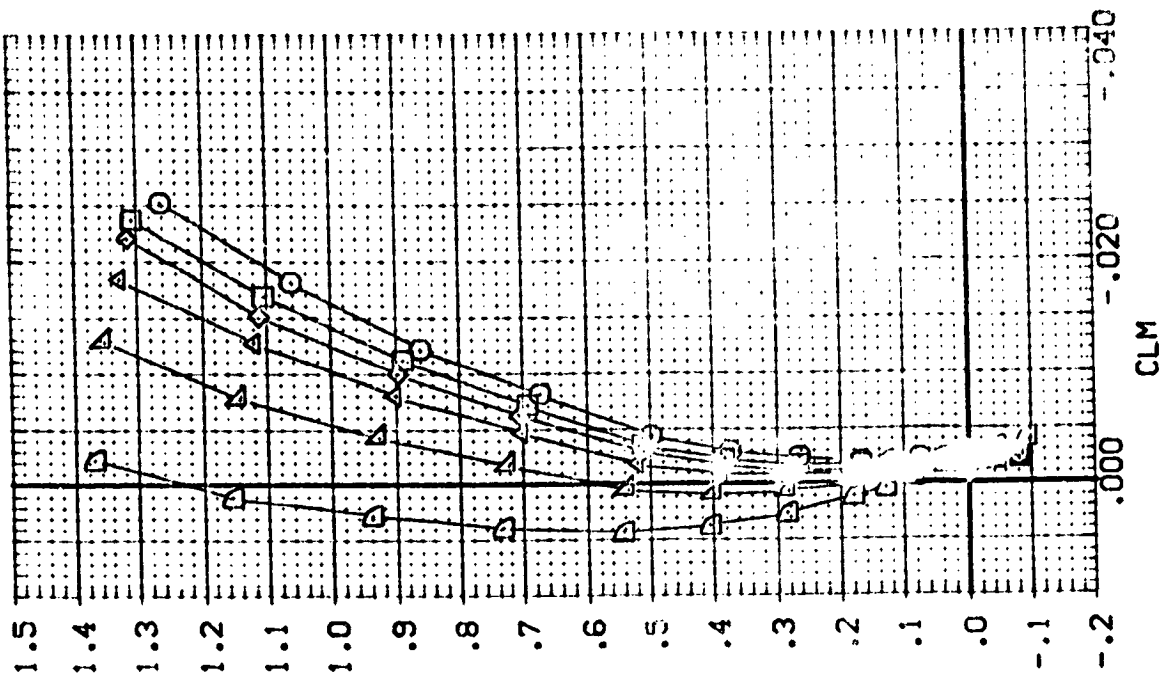
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	CLM	BETA	VINGNO	ELEVTR	REFERENCE INFORMATION
BP80C1	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS) (BW2VFB)	17.4720	.000	2.000	.000	SRF
BP80C4	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS) (BW2VFB)	25.5100	.000	2.000	.000	LRF
BP80C5	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS) (BW2VFB)	20.3557	.000	2.000	.000	BRF
BP80C7	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS) (BW2VFB)	16.8356	.000	2.000	.000	YMRP
BP80C8	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS) (BW2VFB)	.0000	.000	2.000	.000	ZMRP
BP80C9	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS) (BW2VFB)	.0188	.000	2.000	.000	SCALE



EFFECT OF FILLET ON WING (BW2VFB)

(B)MACH = 2.86

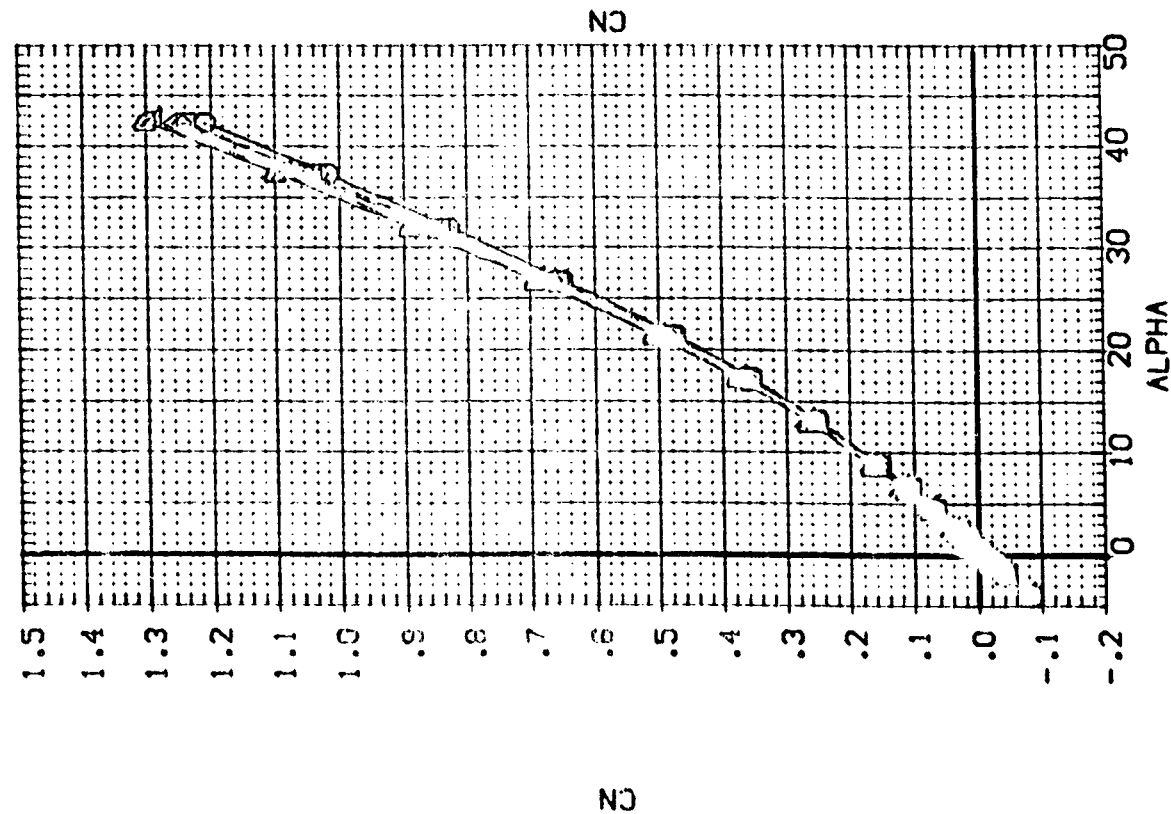
DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	LANDING	BETA	WING	ELEV	REFERENCE INFORMATION
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000000	000000	LA-10 LARC UPVT	60.000	.000	2.000	.000	REF 26.5100
000000	000000	LA-10 LARC UPVT	65.000	.000	2.000	.000	B-E 29.3550
000000	000000	LA-10 LARC UPVT	70.000	.000	2.000	.000	VMC 16.8355
000000	000000	LA-10 LARC UPVT	75.000	.000	2.000	.000	VMC .0000
000000	000000	LA-10 LARC UPVT	79.000	.000	2.000	.000	VMC .0000
000000	000000	LA-10 LARC UPVT	79.000	.000	2.000	.000	SCALE .0.59
000000	000000	LA-10 LARC UPVT	79.000	.000	2.000	.000	SCALE .0.59



EFFECT OF FILLET ON WING (BW2VFB)

(C)MACH = 3.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	BETA	VINGNO	ELEVTR	REFERENCE INFORMATION
BP80011	LA-10 LARC UPVT 1015 LG-100 CRB. (SH)PS (BV2VFB)	45.800	.000	2.000	.000	SREF 47.000
BP80014	LA-10 LARC UPVT 1015 LG-100 CRB. (SH)PS (BV2VFB)	60.000	.000	2.000	.000	LREF 47.000
BP80015	LA-10 LARC UPVT 1015 LG-100 CRB. (SH)PS (BV2VFB)	65.000	.000	2.000	.000	BREF 47.000
BP80017	LA-10 LARC UPVT 1015 LG-100 CRB. (SH)PS (BV2VFB)	70.000	.000	2.000	.000	XREF 47.000
BP80018	LA-10 LARC UPVT 1015 LG-100 CRB. (SH)PS (BV2VFB)	75.000	.000	2.000	.000	VREF 47.000
BP80019	LA-10 LARC UPVT 1015 LG-100 CRB. (SH)PS (BV2VFB)	78.000	.000	2.000	.000	ZREF 47.000
						SCALE 1.000

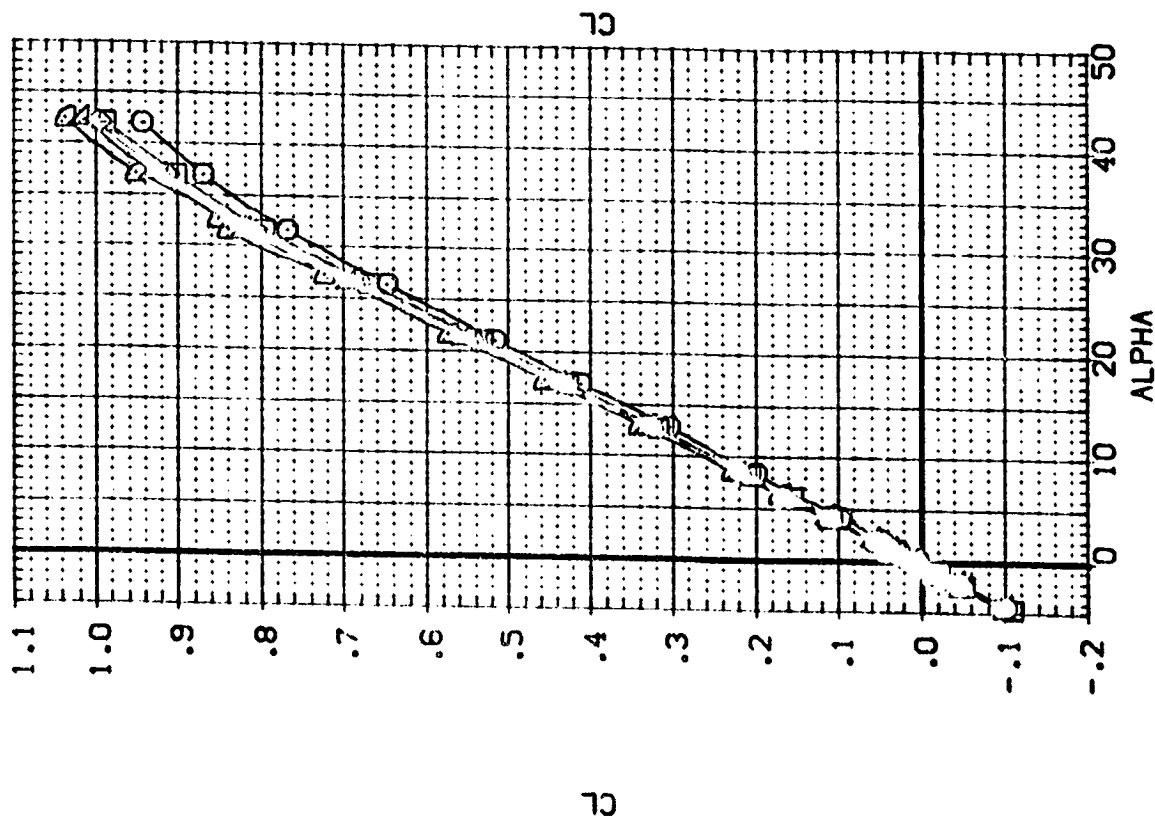


EFFECT OF FILLET ON WING (BW2VFB)

(0)MACH = 4.63

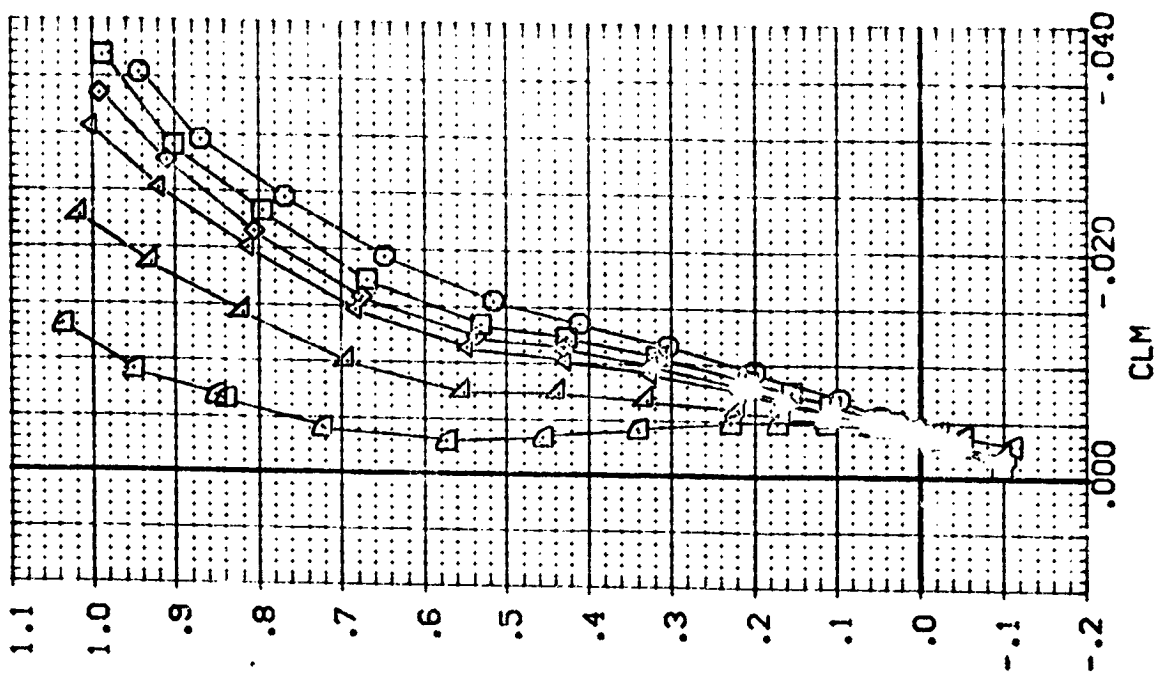


DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LA-10	BETA	VINGNO	ELEVTR	REFERENCE INFORMATION
(B-8001)	LA-10 LARC UPVT 1015 LO-100 C-8B (SH-PS) (BV2VFB)	46.800	.000	2.000	.000	SREF 171.4720 SQ. IN.
(B-8004)	LA-10 LARC UPVT 1015 LO-100 C-8B (SH-PS) (BV2VFB)	60.000	.000	2.000	.000	LREF 25.5100 INCHES
(B-8005)	LA-10 LARC UPVT 1015 LO-100 C-8B (SH-PS) (BV2VFB)	65.000	.000	2.000	.000	BREF 20.3597 INCHES
(B-8007)	LA-10 LARC UPVT 1015 LO-100 C-8B (SH-PS) (BV2VFB)	70.000	.000	2.000	.000	YPRP 16.6366 INCHES
(B-8008)	LA-10 LARC UPVT 1015 LO-100 C-8B (SH-PS) (BV2VFB)	75.000	.000	2.000	.000	ZPRP .0000 INCHES
(B-8013)	LA-10 LARC UPVT 1015 LO-100 C-8B (SH-PS) (BV2VFB)	78.000	.000	2.000	.000	ZPRP .0000 INCHES
						SCALE .0169



EFFECT OF FILLET ON WING (BW2VFB)

(B)MACH = 2.86

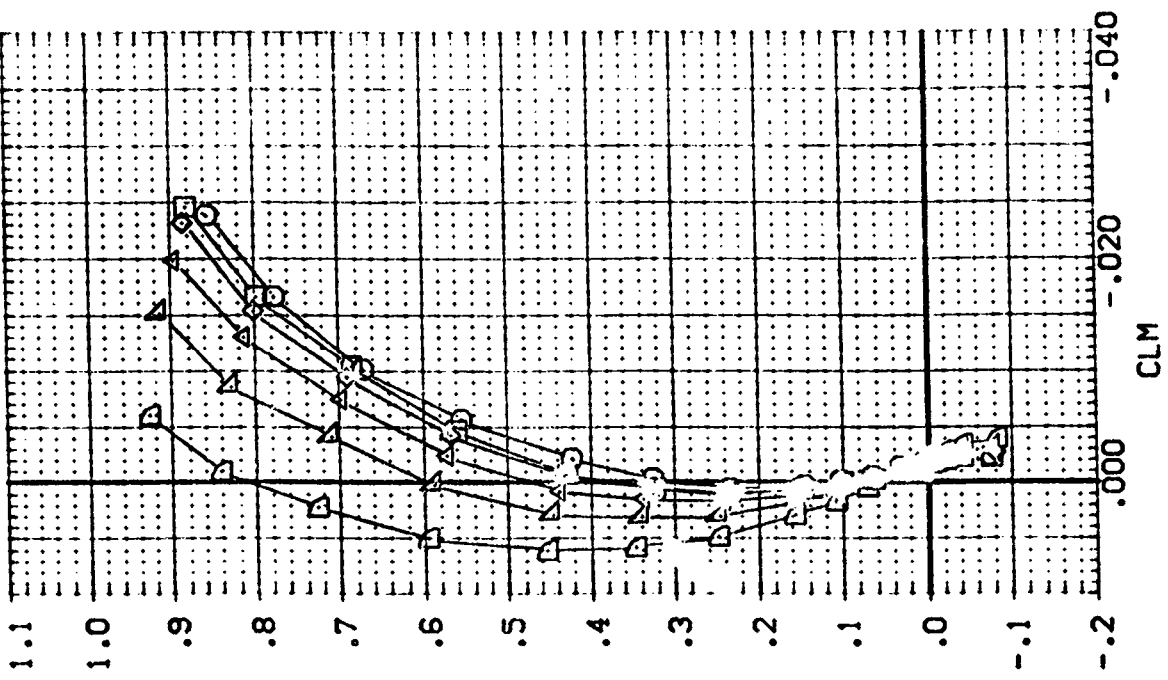
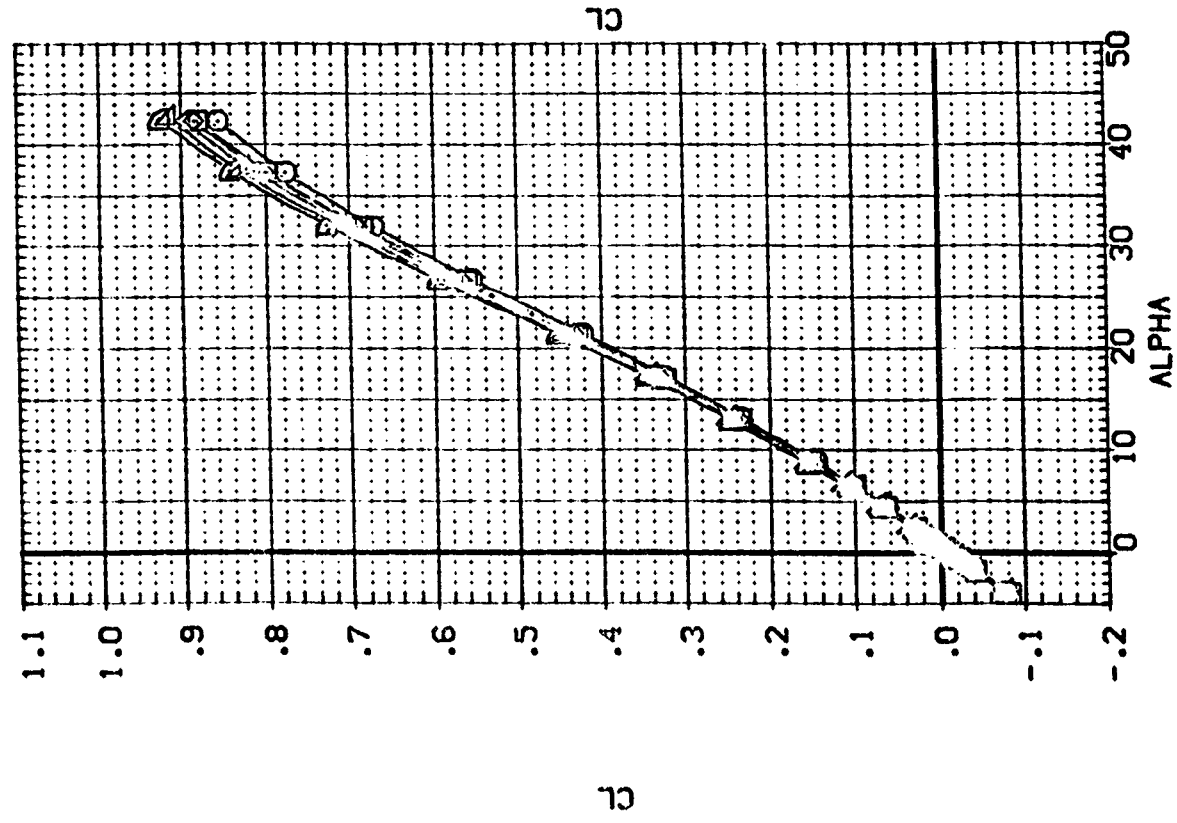


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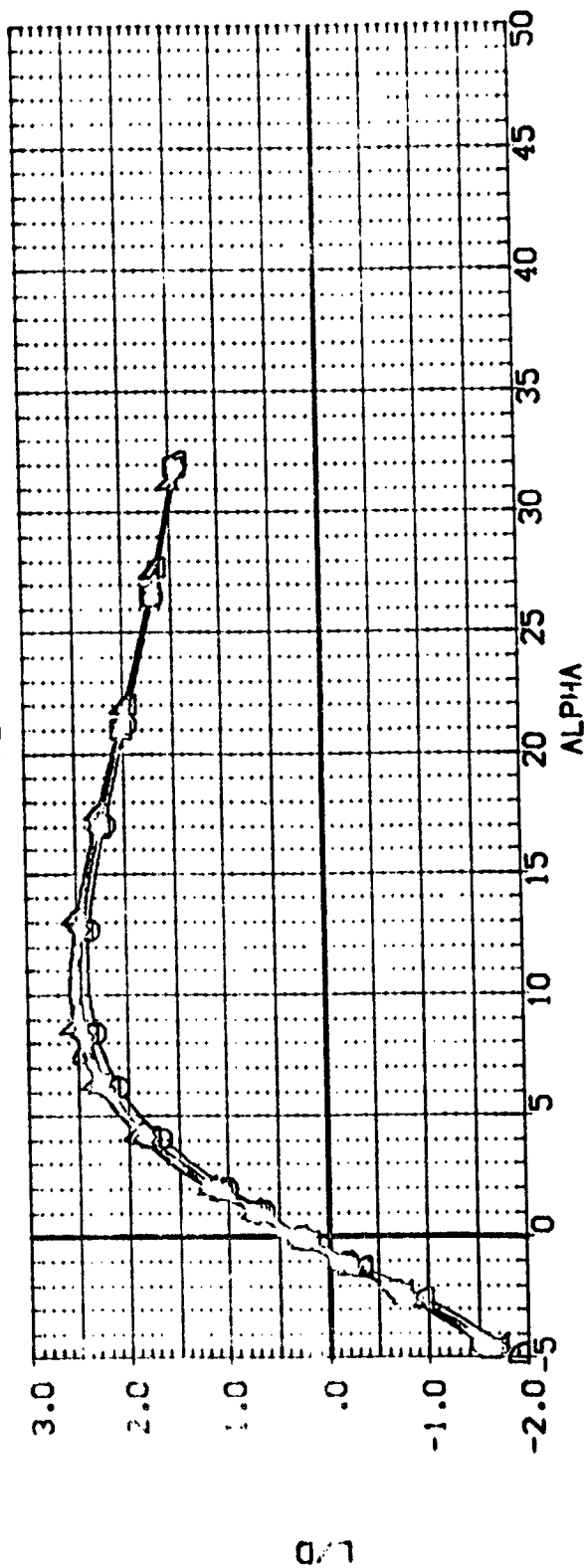
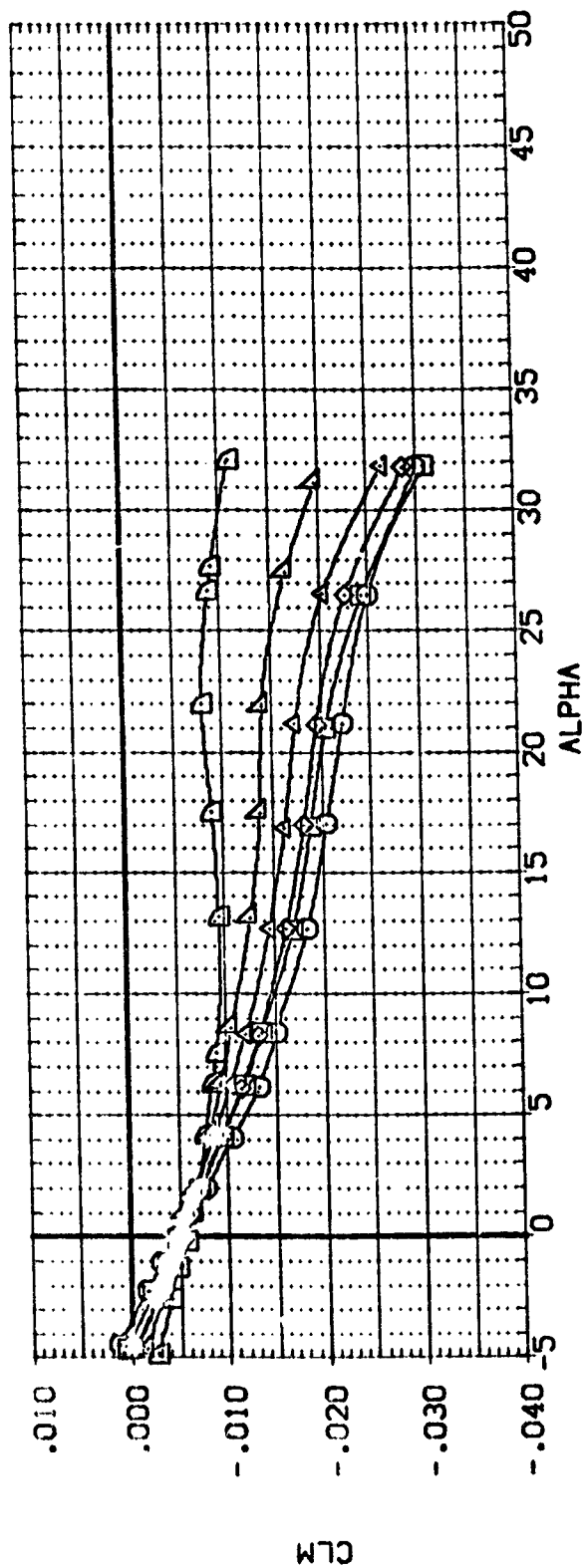
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ORF (SHIPS)	ORF (BV2VFB)	LANDAE	BETA	VINGNO	ELEVTR	REFERENCE INFORMATION	SCALE
(BP8001)	LA-10 LARC UPNT 1015 LO-100	ORF (SHIPS)	ORF (BV2VFB)	46.800	.000	2.000	.000	SREF 171.4720	SC1 IN
(BP8004)	LA-10 LARC UPNT 1015 LO-100	ORF (SHIPS)	ORF (BV2VFB)	60.000	.000	2.000	.000	LREF 25.5100	INCHES
(BP8005)	LA-10 LARC UPNT 1015 LO-100	ORF (SHIPS)	ORF (BV2VFB)	65.000	.000	2.000	.000	BREF 20.3597	INCHES
(BP8007)	LA-10 LARC UPNT 1015 LO-100	ORF (SHIPS)	ORF (BV2VFB)	72.000	.000	2.000	.000	XMPR 16.8365	INCHES
(BP8008)	LA-10 LARC UPNT 1015 LO-100	ORF (SHIPS)	ORF (BV2VFB)	75.000	.000	2.000	.000	YMPR .0000	INCHES
(BP8010)	LA-10 LARC UPNT 1015 LO-100	ORF (SHIPS)	ORF (BV2VFB)	78.000	.000	2.000	.000	ZMPR .0000	INCHES
								SCALE .0188	SC7 LE



EFFECT OF FILLET ON WING (BV2VFB)

(D)MACH = 4.63

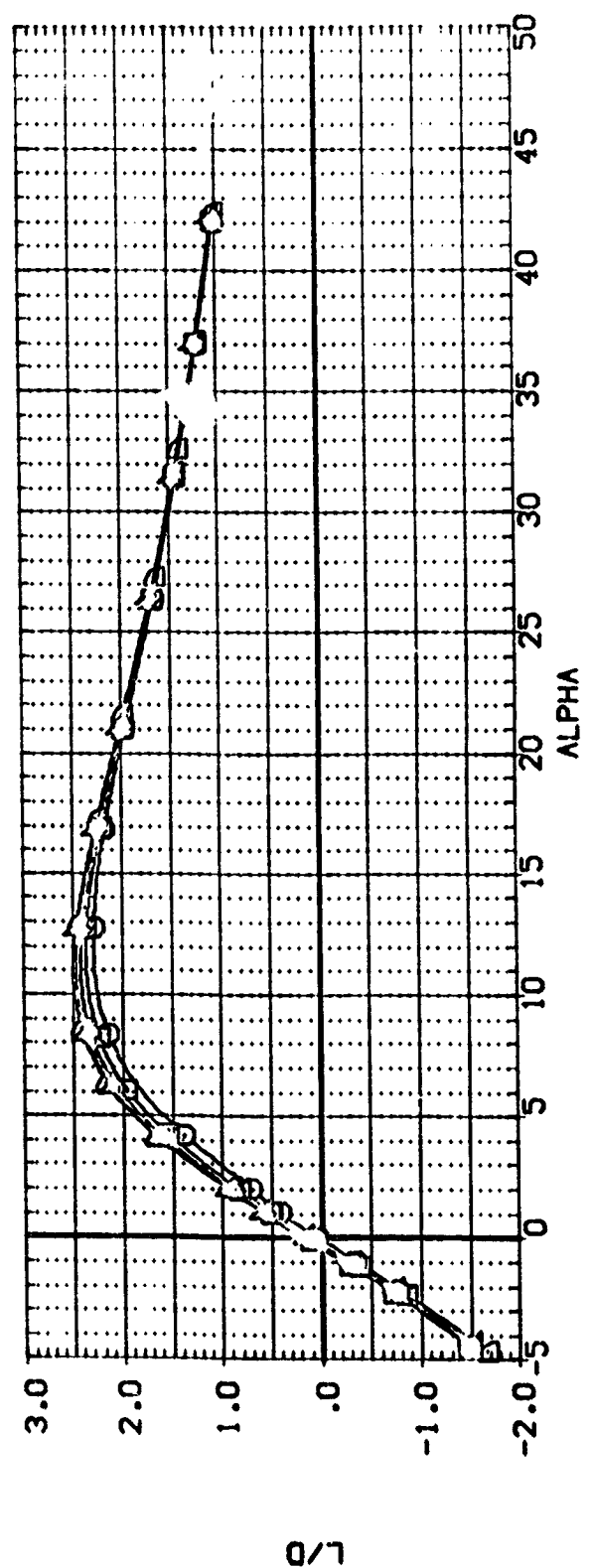
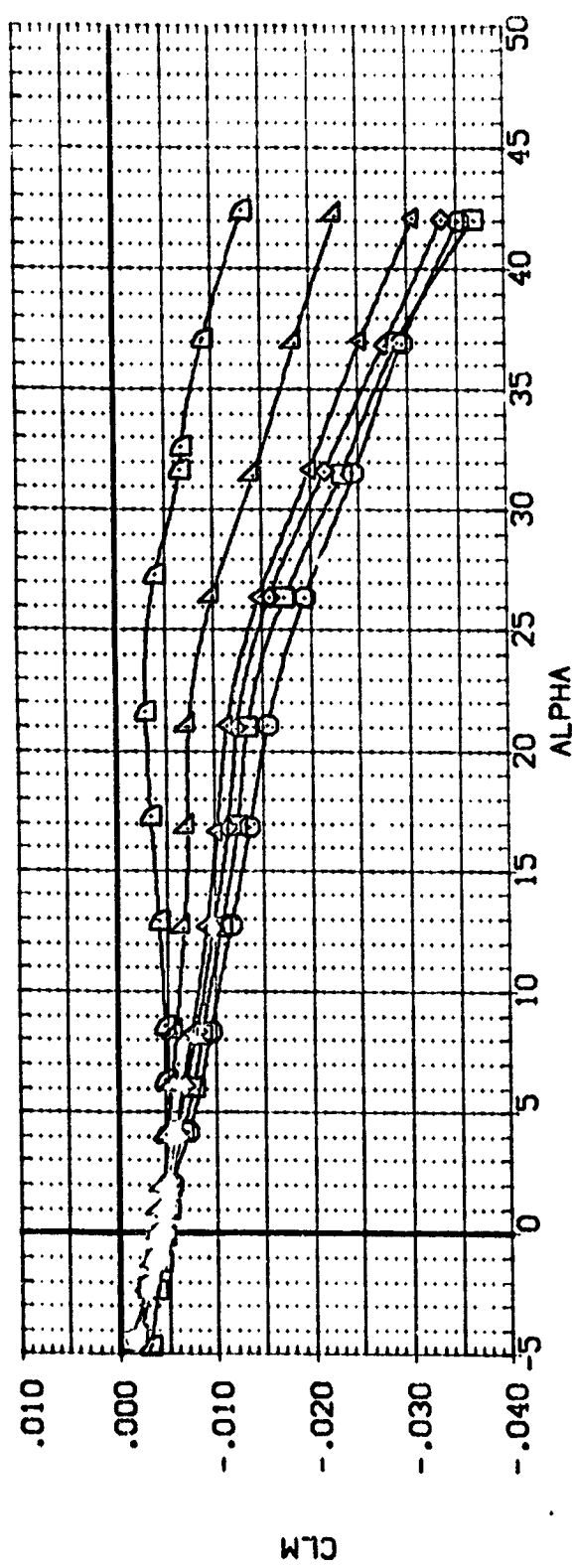
DATA SET SYMBOL	CONF:GURATION DESCRIPTION	LANDAF	BETA	VINGND	ELEVTR	REFERENCE INFORMATION
BP8001	LARC UPVT :015 LG-100 CR8. (SHIPS) (BW2VFB)	45.800	.000	2.000	.000	SREF 171.4720 50. IN.
BP8004	LARC UPVT :015 LG-100 CR8. (SHIPS) (BW2VFB)	60.000	.000	2.000	.000	LREF 25.5100 INCHES
BP8005	LARC UPVT :015 LG-100 CR8. (SHIPS) (BW2VFB)	65.000	.000	2.000	.000	BREF 20.3597 INCHES
BP8007	LARC UPVT :015 LG-100 CR8. (SHIPS) (BW2VFB)	70.000	.000	2.000	.000	XMRP 16.8366 INCHES
BP8008	LARC UPVT :015 LG-100 CR8. (SHIPS) (BW2VFB)	75.000	.000	2.000	.000	YMRP .0000 INCHES
BP8009	LARC UPVT :015 LG-100 CR8. (SHIPS) (BW2VFB)	79.000	.000	2.000	.000	ZMRP .0000 INCHES
BP8010	LARC UPVT :015 LG-100 CR8. (SHIPS) (BW2VFB)	79.000	.000	2.000	.000	SCALE .0188



EFFECT OF FILLET ON WING (BW2VFB)

(A)MACH = 2.36

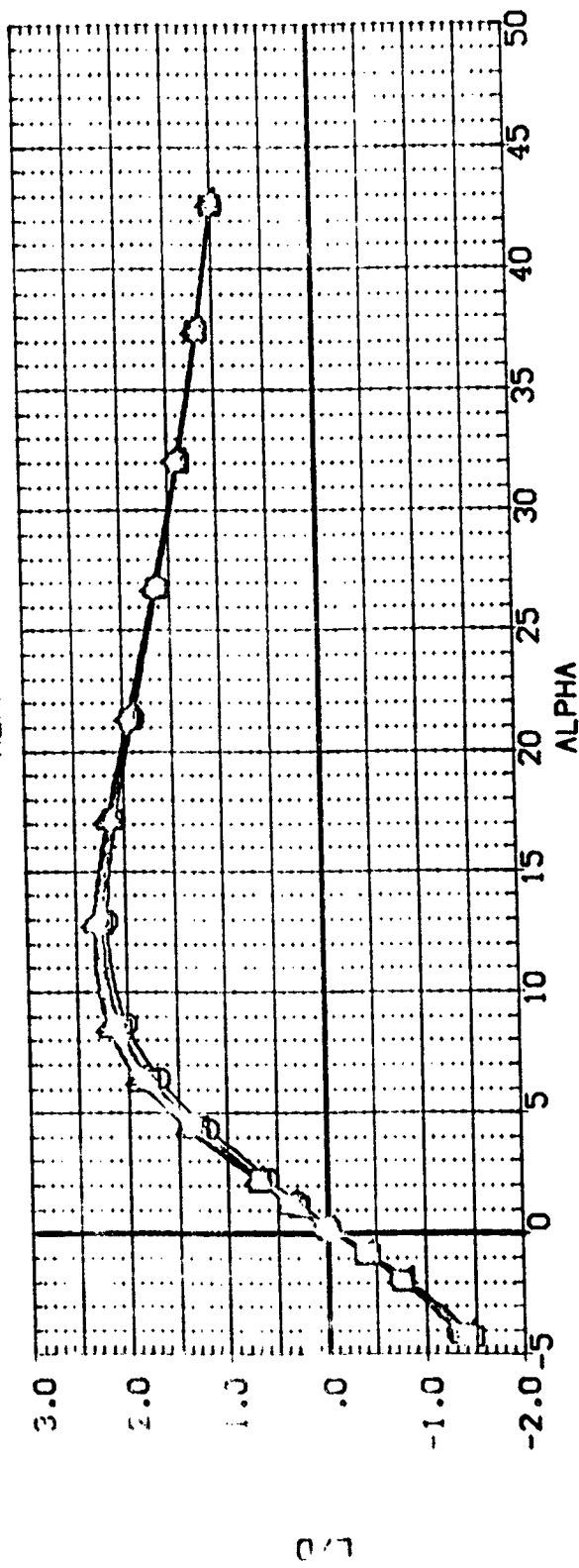
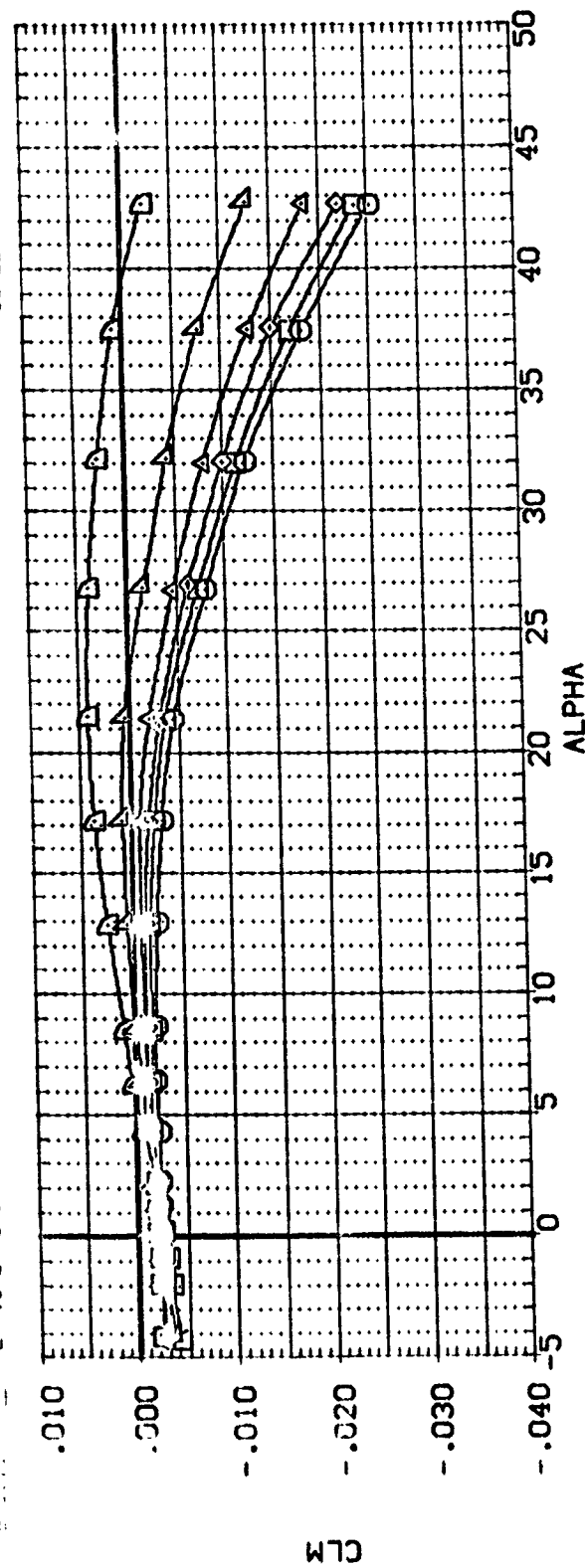
DATA SET	SYMBOL	CONFIGURATION	DESCRIPTION	LA/DAR	BETA	VINGNO	ELEVTR	REFERENCE INFORMATION
(B78001)	□	LA-10 LARC UPVT	1015 LO-100 ORB. (S41PS)	46.800	.000	2.000	.000	SREF 171.4720 SQ. IN.
(B78004)	□	LA-10 LARC UPVT	1015 LO-100 ORB. (S41PS)	60.000	.000	2.000	.000	LREF 25.5100 INCHES
(B78005)	□	LA-10 LARC UPVT	1015 LO-100 ORB. (S41PS)	65.000	.000	2.000	.000	BREF 20.3597 INCHES
(B78007)	□	LA-10 LARC UPVT	1015 LO-100 ORB. (S41PS)	70.000	.000	2.000	.000	XREF 16.8366 INCHES
(B78008)	□	LA-10 LARC UPVT	1015 LO-100 ORB. (S41PS)	75.000	.000	2.000	.000	YREF .0000 INCHES
(B78010)	□	LA-10 LARC UPVT	1015 LO-100 ORB. (S41PS)	78.000	.000	2.000	.000	ZREF .0000 INCHES
								SCALE 0.88



EFFECT OF FILLET ON WING (BW2VFB)

(B)MACH = 2.86

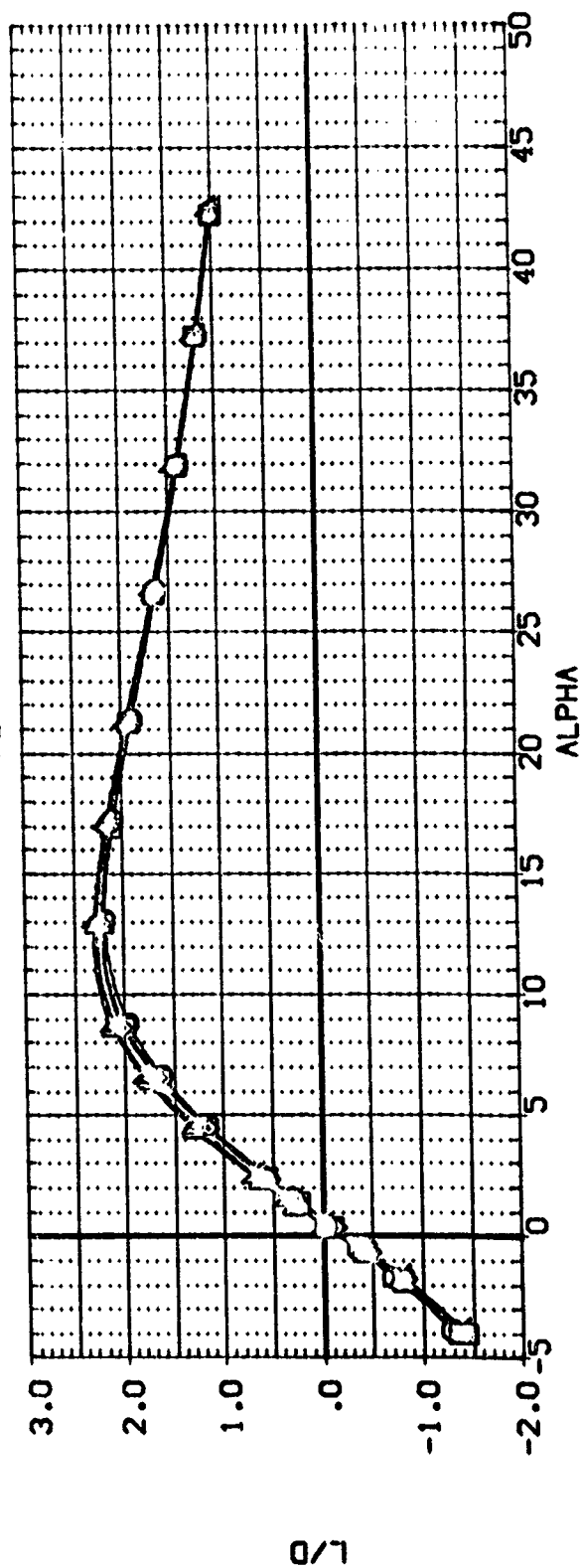
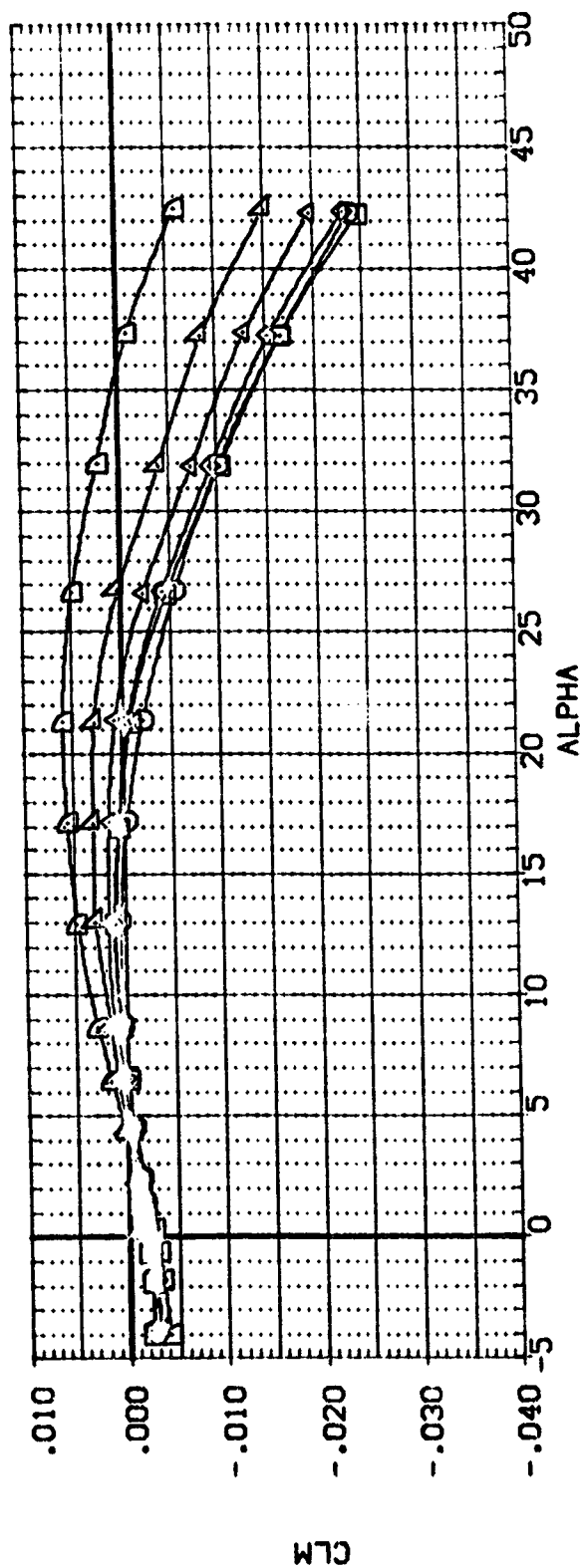
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LAMDAF	BETA	VINGNO	ELEVTR	REFERENCE INFORMATION	SO. IN.
BP8001	LA-10 LARC LVT 1015 LO-100 CRB (SHIPS) (BV2VFB)	46.800	.000	2.000	.000	SREF 171.4720	INCHES
BP8004	LA-10 LARC LVT 1015 LO-100 CRB (SHIPS) (BV2VFB)	60.000	.000	2.000	.000	LREF 25.5100	INCHES
BP8005	LA-10 LARC LVT 1015 LO-100 CRB (SHIPS) (BV2VFB)	65.000	.000	2.000	.000	BREF 20.3587	INCHES
BP8007	LA-10 LARC LVT 1015 LO-100 CRB (SHIPS) (BV2VFB)	70.000	.000	2.000	.000	XMRP 16.8356	INCHES
BP8008	LA-10 LARC LVT 1015 LO-100 CRB (SHIPS) (BV2VFB)	75.000	.000	2.000	.000	YMRP .0000	INCHES
BP8009	LA-10 LARC LVT 1015 LO-100 CRB (SHIPS) (BV2VFB)	78.000	.000	2.000	.000	ZMRP .0000	INCHES
BP8010	LA-10 LARC LVT 1015 LO-100 CRB (SHIPS) (BV2VFB)	78.000	.000	2.000	.000	SCALE .0168	SCALE



EFFECT OF FILLET ON WING (BW2VFB)

(C)MACH = 3.96

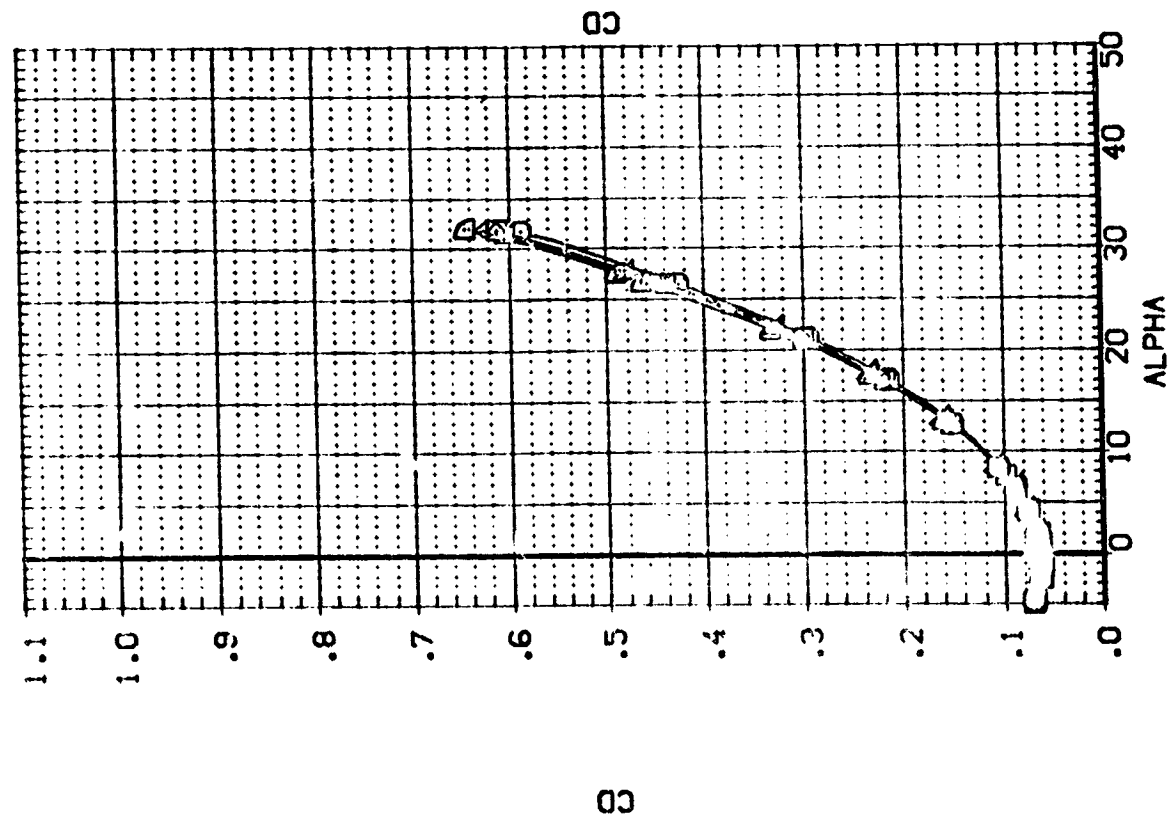
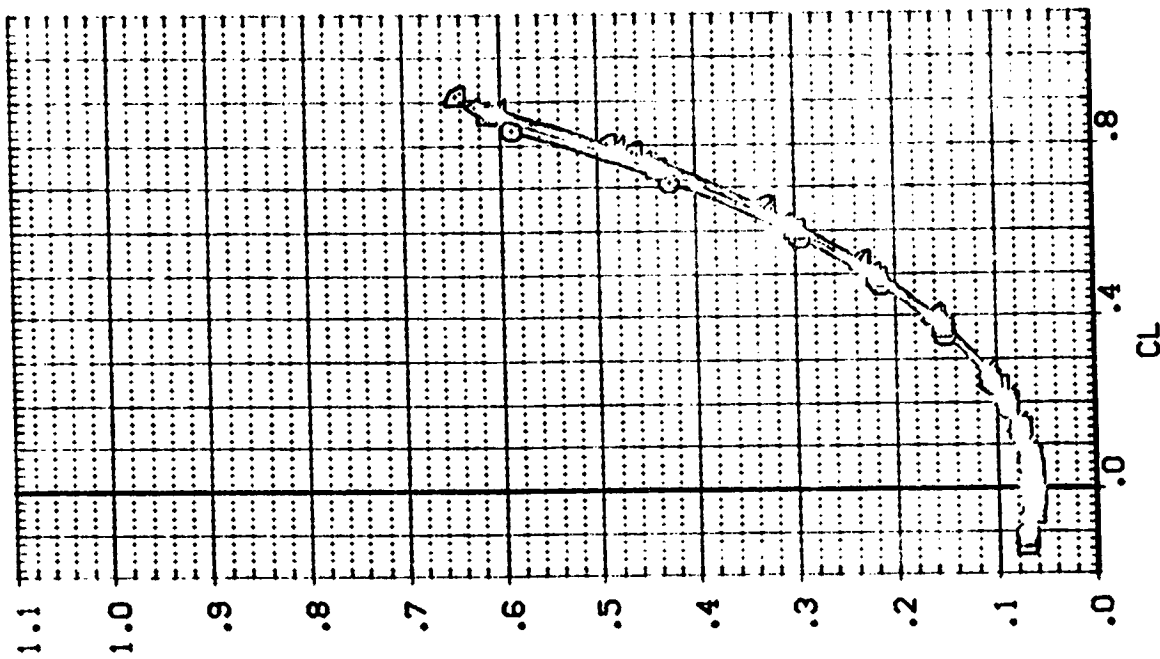
DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	LANDAF	BETA	VINGND	ELEVTR	REFERENCE INFORMATION
(B8001)	LA-10 LARC UPNT	101S LG-100 CRG. (SHIPS)	46.800	.000	2.000	.000	SREF 171.4720 SQ.IN.
(B8002)	LA-10 LARC UPNT	101S LG-100 CRG. (SHIPS)	46.800	.000	2.000	.000	SREF 175.5100 INCHES
(B8004)	LA-10 LARC UPNT	101S LG-100 CRG. (SHIPS)	60.000	.000	2.000	.000	BREF 20.3597 INCHES
(B8005)	LA-10 LARC UPNT	101S LG-100 CRG. (SHIPS)	65.000	.000	2.000	.000	XMPF 16.8366 INCHES
(B8007)	LA-10 LARC UPNT	101S LG-100 CRG. (SHIPS)	70.000	.000	2.000	.000	YMRP .0000 INCHES
(B8008)	LA-10 LARC UPNT	101S LG-100 CRG. (SHIPS)	75.000	.000	2.000	.000	ZMRP .0000 INCHES
(B8009)	LA-10 LARC UPNT	101S LG-100 CRG. (SHIPS)	78.000	.000	2.000	.000	SCALE .0088 SCALE
(B8010)	LA-10 LARC UPNT	101S LG-100 CRG. (SHIPS)					



EFFECT OF FILLET ON WING (BW2VFB)

**[D]MACH = 4.63**

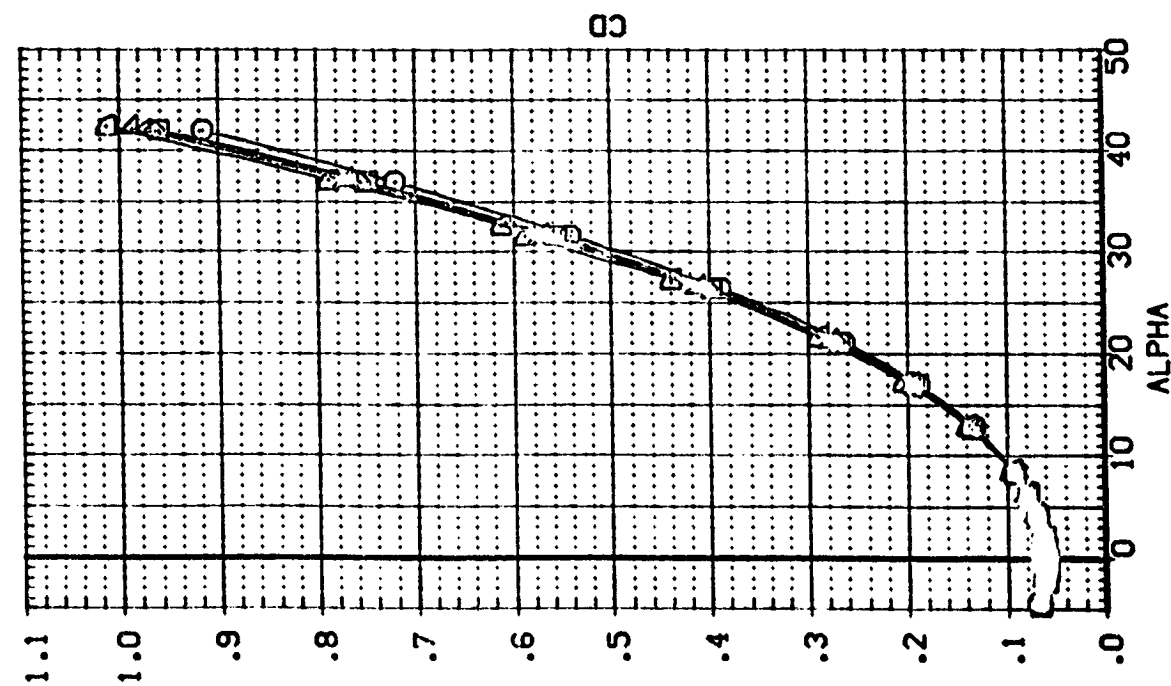
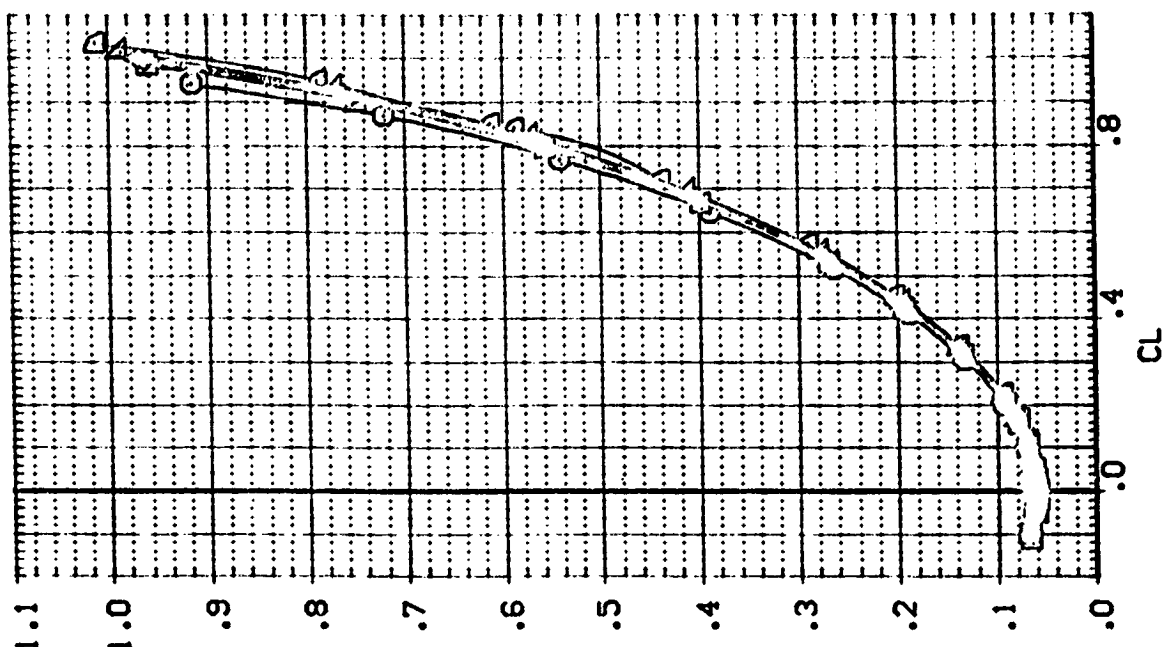
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	BETA	VINGNO	ELEVTR	REFERENCE INFORMATION
BP8001	LA-10 LARC LWT 015 LG-100 CRB (SHIPS) (BW2VFB)	46.800	.000	2.000	.000	SREF 171.4720 50.1N. INCHES
BP8004	LA-10 LARC LWT 015 LG-100 CRB (SHIPS) (BW2VFB)	50.000	.000	2.000	.000	LREF 25.5100 INCHES
BP8005	LA-10 LARC LWT 015 LG-100 CRB (SHIPS) (BW2VFB)	55.000	.000	2.000	.000	BREF 20.3597 INCHES
BP8007	LA-10 LARC LWT 015 LG-100 CRB (SHIPS) (BW2VFB)	70.000	.000	2.000	.000	XMRP 16.8366 INCHES
BP8009	LA-10 LARC LWT 015 LG-100 CRB (SHIPS) (BW2VFB)	75.000	.000	2.000	.000	YMRP .0000 INCHES
BP8010	LA-10 LARC LWT 015 LG-100 CRB (SHIPS) (BW2VFB)	78.000	.000	2.000	.000	ZMRP .0000 INCHES
BP8011	LA-10 LARC LWT 015 LG-100 CRB (SHIPS) (BW2VFB)		.000	2.000	.000	SCALE .0188 SCALE



EFFECT OF FILLET ON WING (BW2VFB)

(A)MACH = 2.36

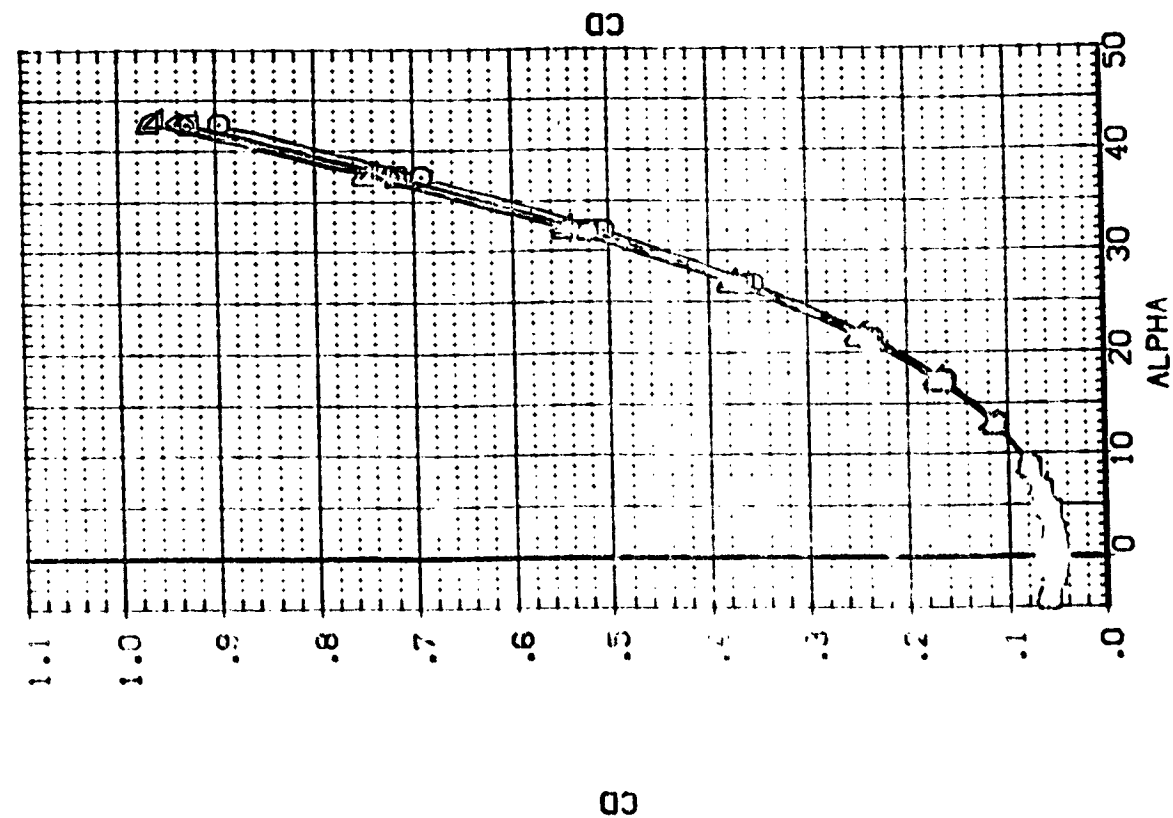
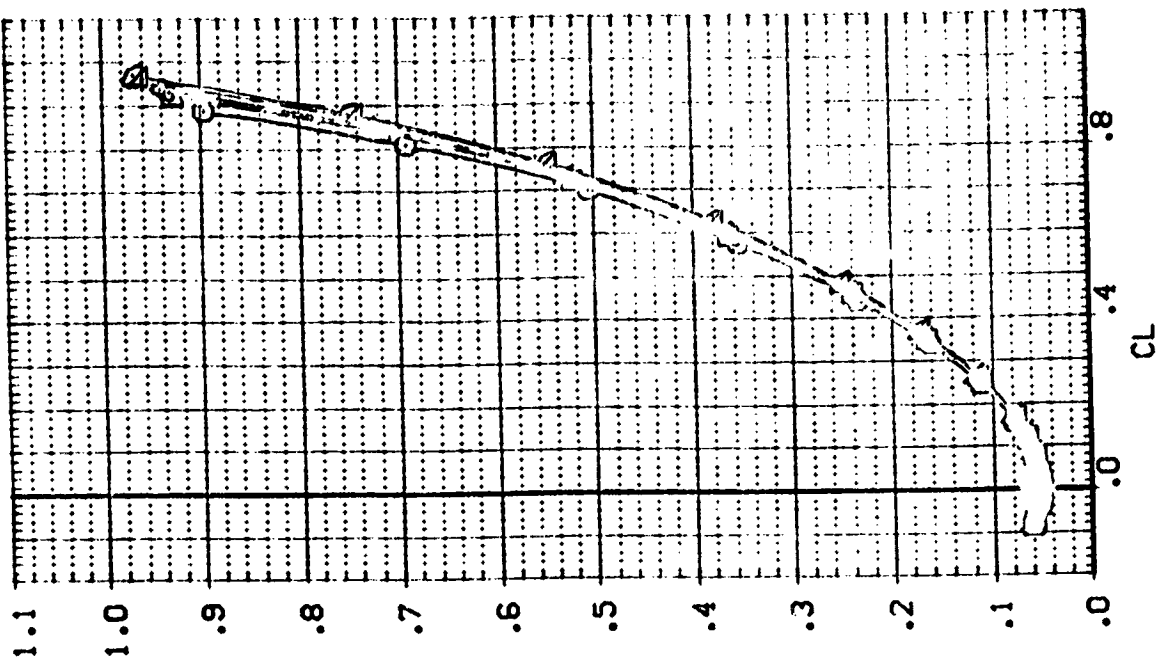
DATA SET SYMBOL	CONF	IGURATION	DESCRIPTION	LA-10	LARC	UPVT	IO15	LG-100	CR8	(SHIPS)	(BV2VFB)	LAMDAF	BETA	VINGAG	ELEVTR	REFERENCE INFORMATION	SCALE
(BP8001)	LA-10	LARC	UPVT	IO15	LG-100	CR8	(SHIPS)	(BV2VFB)	46.800	.000	2.000	.000	.000	.000	.000	SREF	171.4720
(BP8004)	LA-10	LARC	UPVT	IO15	LG-100	CR8	(SHIPS)	(BV2VFB)	60.000	.000	2.000	.000	.000	.000	.000	LREF	25.5100
(BP8005)	LA-10	LARC	UPVT	IO15	LG-100	CR8	(SHIPS)	(BV2VFB)	65.000	.000	2.000	.000	.000	.000	.000	BREF	20.3597
(BP8007)	LA-10	LARC	UPVT	IO15	LG-100	CR8	(SHIPS)	(BV2VFB)	70.000	.000	2.000	.000	.000	.000	.000	YMRP	16.8366
(BP8008)	LA-10	LARC	UPVT	IO15	LG-100	CR8	(SHIPS)	(BV2VFB)	75.000	.000	2.000	.000	.000	.000	.000	ZMRP	.0000
(BP8010)	LA-10	LARC	UPVT	IO15	LG-100	CR8	(SHIPS)	(BV2VFB)	78.000	.000	2.000	.000	.000	.000	.000	SCALE	.0188



EFFECT OF FILLET ON WING (BW2VFB)

(B)MACH = 2.86

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	BETA	VINGNO	ELEVTR	REFERENCE INFORMATION
SP8031	LA-10 LARC UPVT 1015 LO-100 00B (SHIP) (BV2VFB)	46.800	.000	2.000	.000	SREF 171.4720 50.1 IN.
BP8034	LA-10 LARC UPVT 1015 LO-100 00B (SHIP) (BV2VFB)	60.000	.000	2.000	.000	LREF 23.5100 10.1 IN.
BP8035	LA-10 LARC UPVT 1015 LO-100 00B (SHIP) (BV2VFB)	65.000	.000	2.000	.000	BREF 20.3587 10.1 IN.
BP8036	LA-10 LARC UPVT 1015 LO-100 00B (SHIP) (BV2VFB)	70.000	.000	2.000	.000	XREF 16.8368 10.1 IN.
BP8037	LA-10 LARC UPVT 1015 LO-100 00B (SHIP) (BV2VFB)	75.000	.000	2.000	.000	YREF .0000 10.1 IN.
BP8038	LA-10 LARC UPVT 1015 LO-100 00B (SHIP) (BV2VFB)	78.000	.000	2.000	.000	ZREF .0000 10.1 IN.
						SCALE .0188

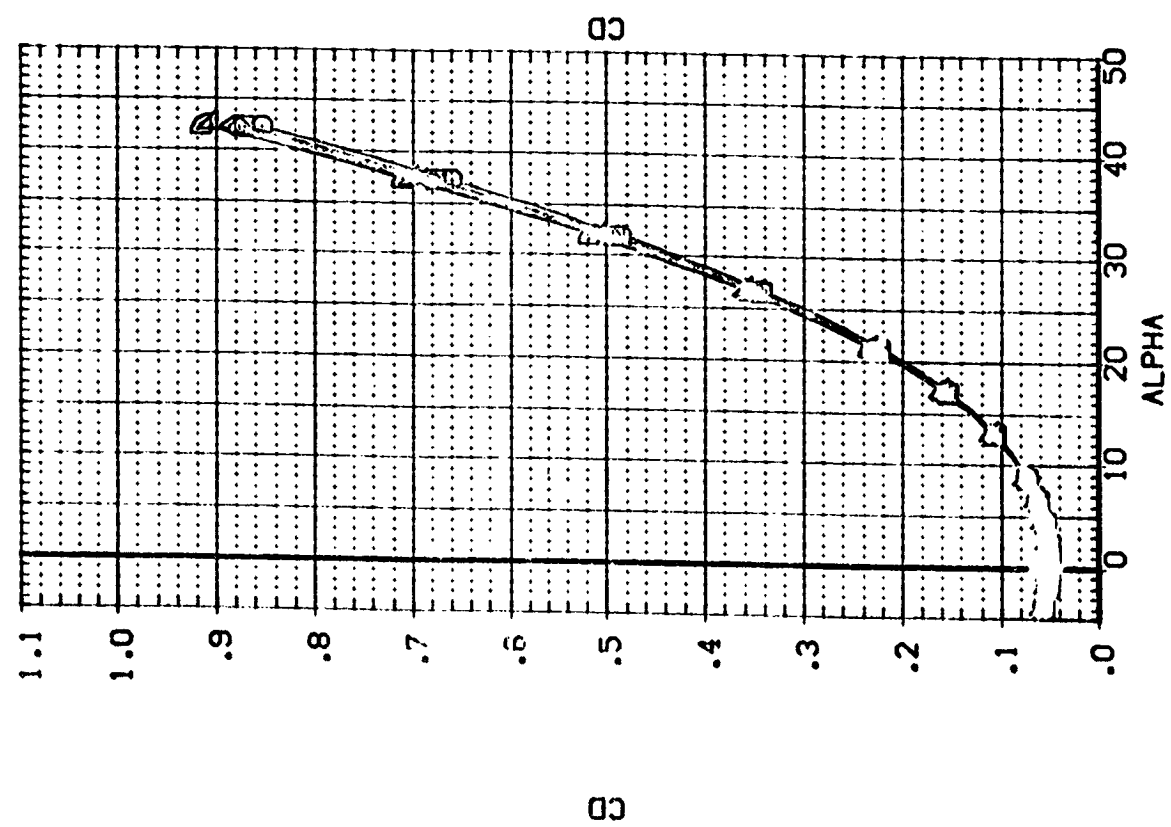
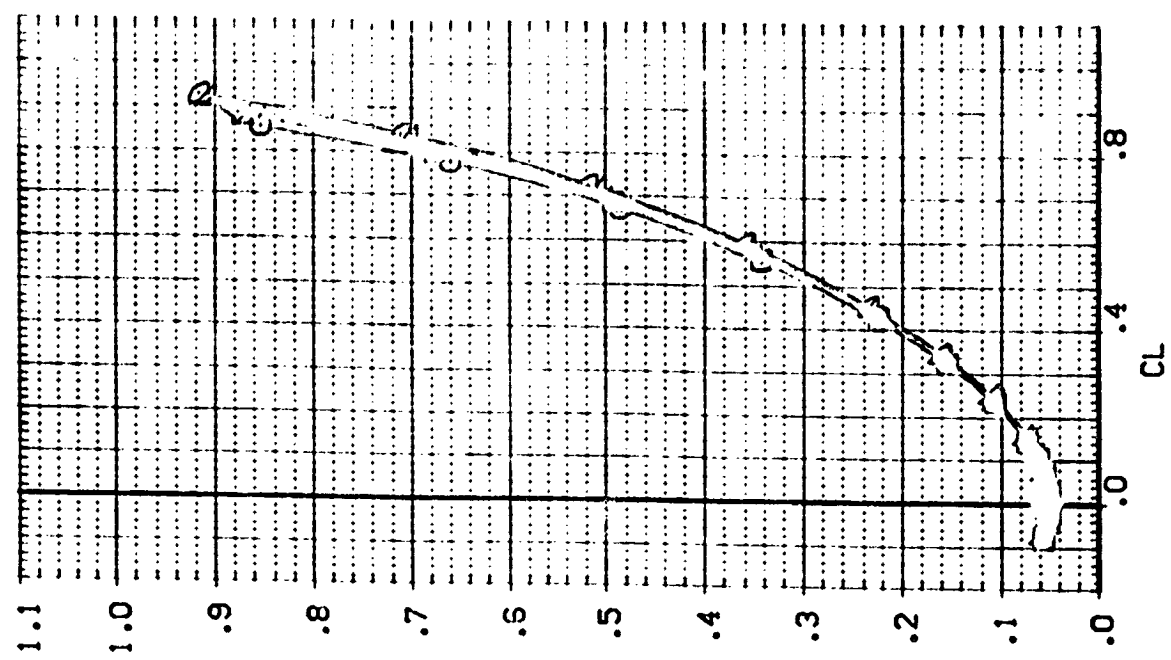


EFFECT OF FILLET ON WING (8W2VFB)

(C)MACH = 3.96



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LA/DAF	BETA	WINGNO	ELEVTR	REFERENCE INFORMATION
(BP8001)	LA-10 LARC UPVT 1015 LG-100 CR8 (SHIP) (BV2VFB)	46.800	.000	2.000	.000	SREF 171.4720 SC IN
(BP8004)	LA-10 LARC UPVT 1015 LG-100 CR8 (SHIP) (BV2VFB)	60.000	.000	2.000	.000	LREF 23.5100 IN
(BP8005)	LA-10 LARC UPVT 1015 LG-100 CR8 (SHIP) (BV2VFB)	65.000	.000	2.000	.000	BREF 20.5500 IN
(BP8007)	LA-10 LARC UPVT 1015 LG-100 CR8 (SHIP) (BV2VFB)	70.000	.000	2.000	.000	XVREF 16.9358 IN
(BP8008)	LA-10 LARC UPVT 1015 LG-100 CR8 (SHIP) (BV2VFB)	75.000	.000	2.000	.000	YVREF 16.9358 IN
(BP8010)	LA-10 LARC UPVT 1015 LG-100 CR8 (SHIP) (BV2VFB)	78.000	.000	2.000	.000	ZVREF 16.9358 IN
						SCALE .0155

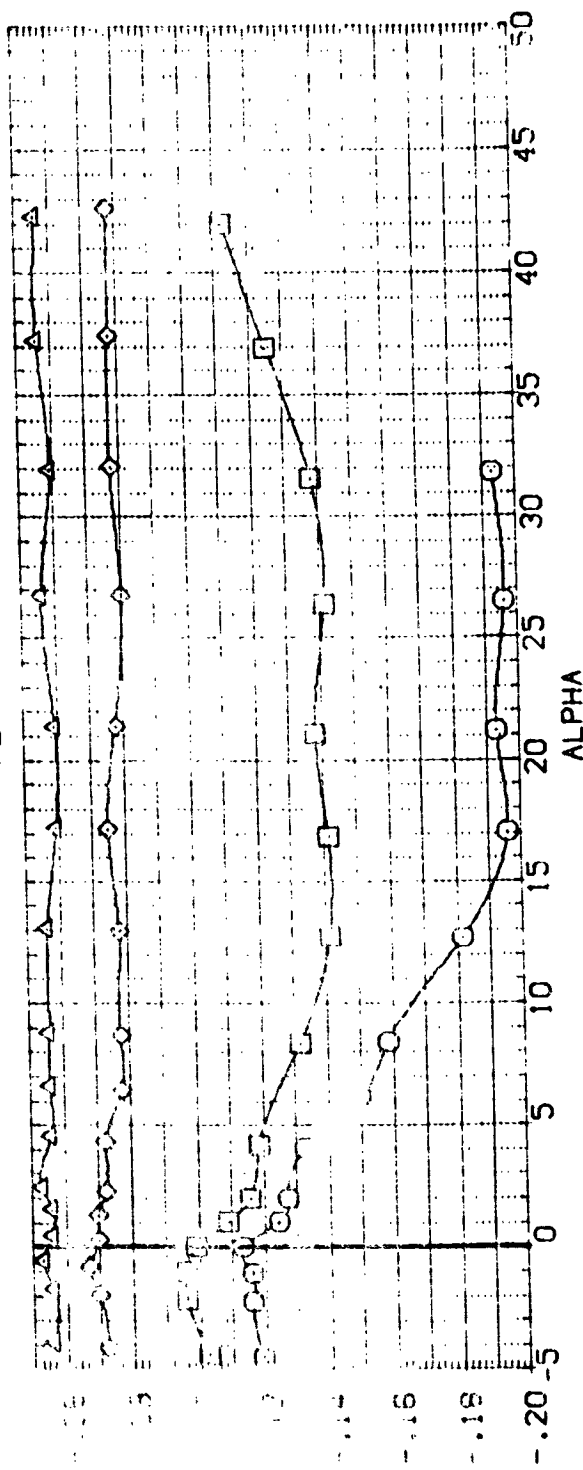
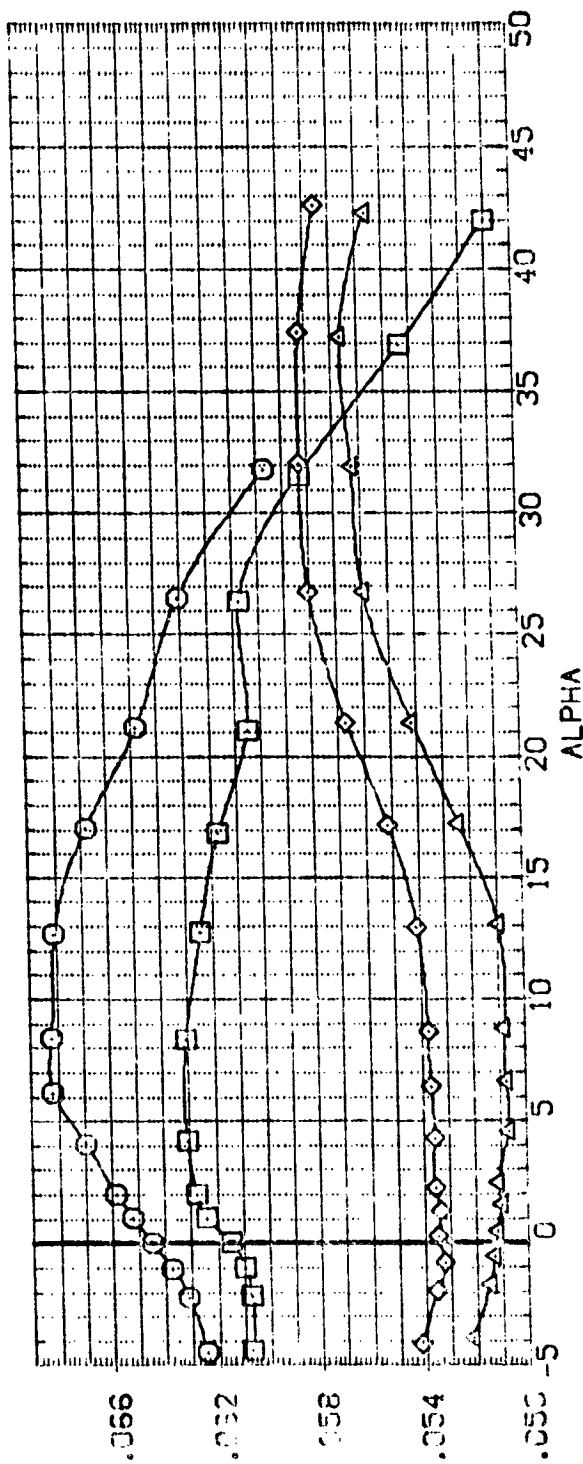


EFFECT OF FILLET ON WING (BV2VFB)

(DJMACH = 4.63

WING LAR (DWT 1015 LG-100 ORB.(SHIPS) (BW2VER)(BP8001)

SYMBOL		MACH	PARAMETRIC VALUES				REFERENCE INFORMATION			
		2.360	BETA	.000	VINGNO	2.000	SREF	71.4720	INCHES	
		2.860	LAMDAF	46.800	ELEVTR	.000	LREF	25.5100	INCHES	
		2.960	30° AD	.000	RUDFLP	.000	BREF	23.3597	INCHES	
							XMRP	9366	INCHES	
							YMRP	.0000	INCHES	
							ZMRP	.0000	INCHES	
							SCALE	.0188	SCALE	



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=46.8 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP8001)

SYMBOL  
O  
□  
△

MACH  
2.360  
2.860  
3.960  
4.630

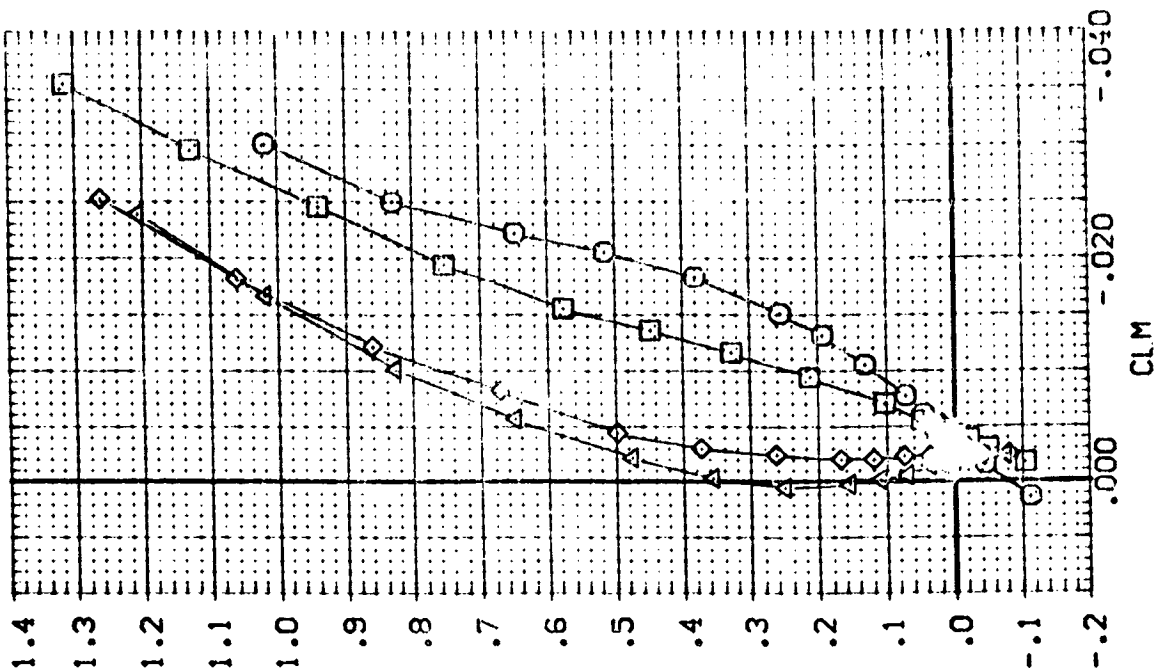
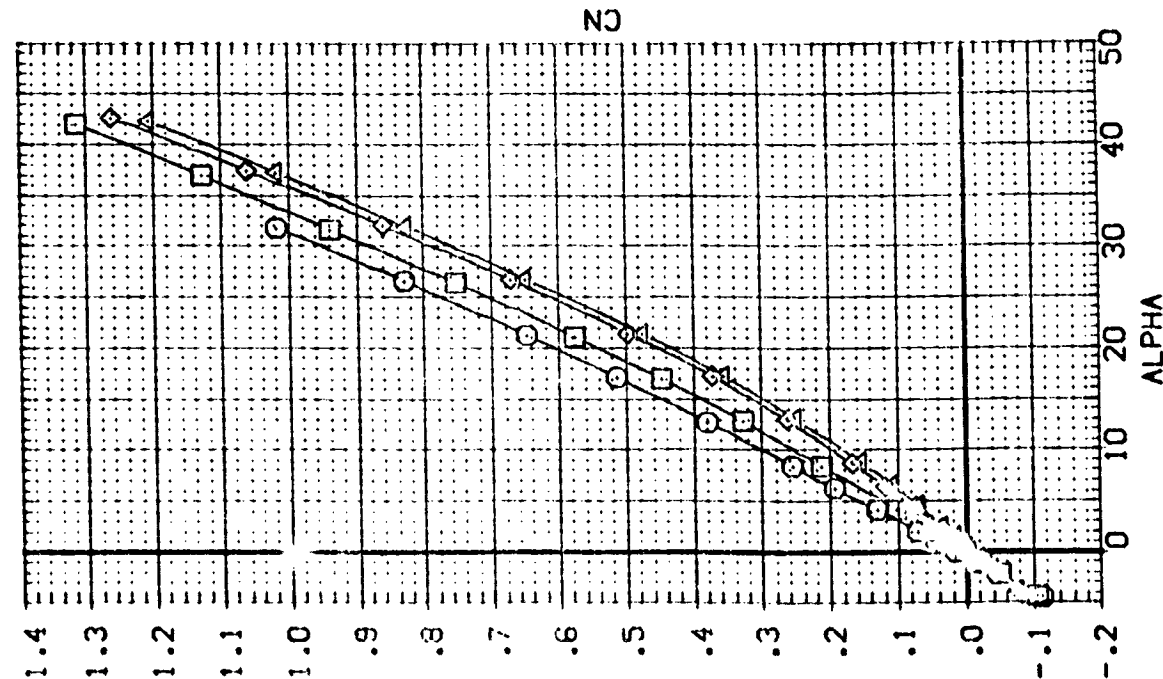
BETA  
LAMCAF  
BCFLAP

PARAMETRIC VALUES  
.000  
46.800  
.000

VINGC  
ELEVTR  
RUCFLR

2.000  
.000  
.000

REFERENCE INFORMATION  
SREF 171.4720  
LREF 25.5100  
BREF 20.3597  
XVRP 16.8366  
YVRP .0000  
ZVRP .0000  
SCALE .0188



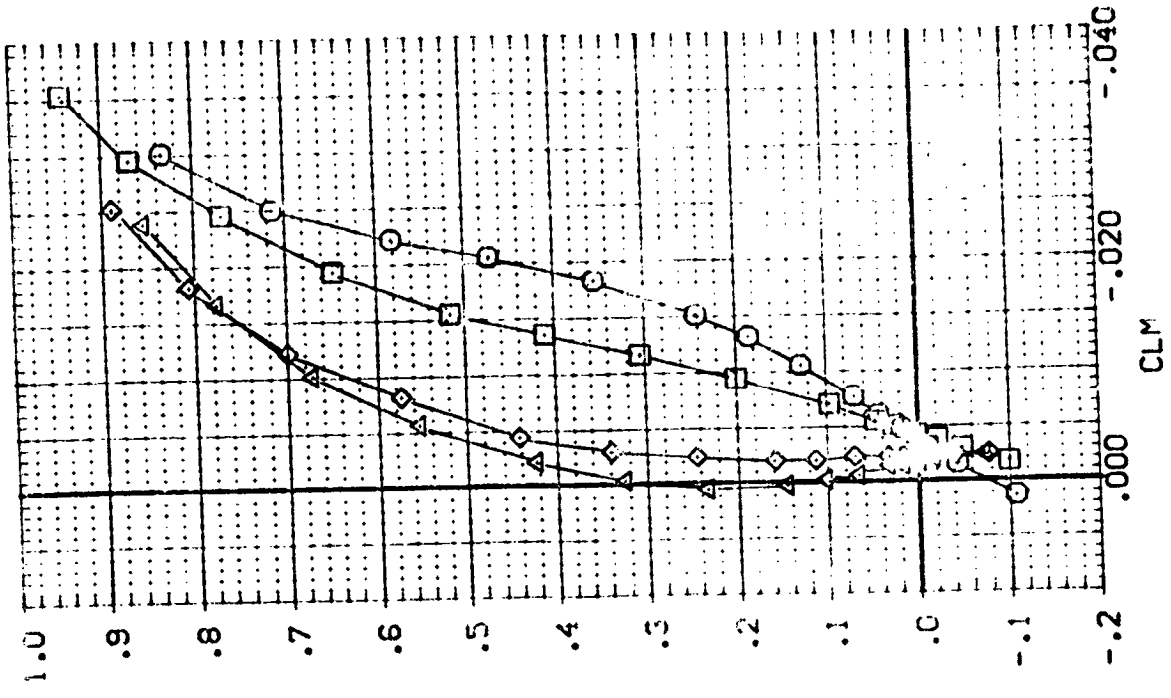
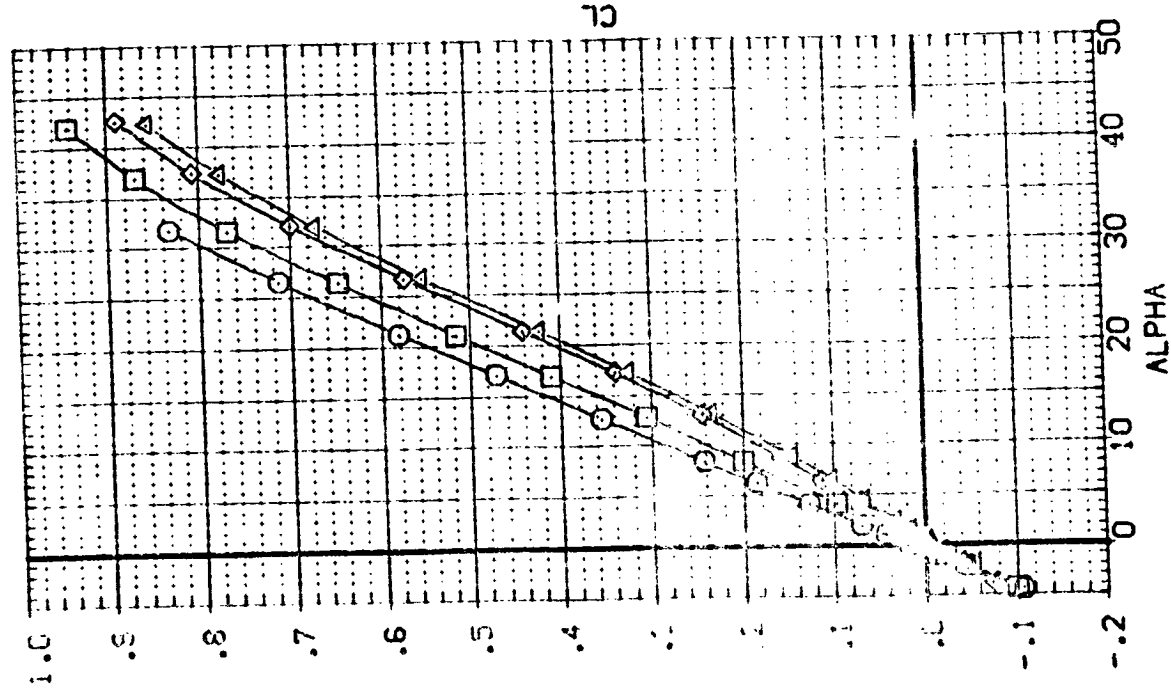
EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=46.8 DEG.)

LA-10 ARC UPWT 1015 0-100 ORB.(SHIPS: 13-1015 (2P8001))

SYMBOL	MACH	BETA	PARAMETRIC VALUES	2.000
○	2.360	.000	VINGNO	.000
□	2.860	46.800	ELEVTR	.000
◇	3.960	.000	POFLR	.000
△	4.630			

REFERENCE INFORMATION

SREF	171.4720	50.1N
LREF	25.5100	INCHES
BREF	20.3697	INCHES
XMRP	16.8366	INCHES
YMRP	.0000	INCHES
ZMRP	.0000	INCHES
SCALE	.0188	SCALE



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=46.8 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB)(BP8001)

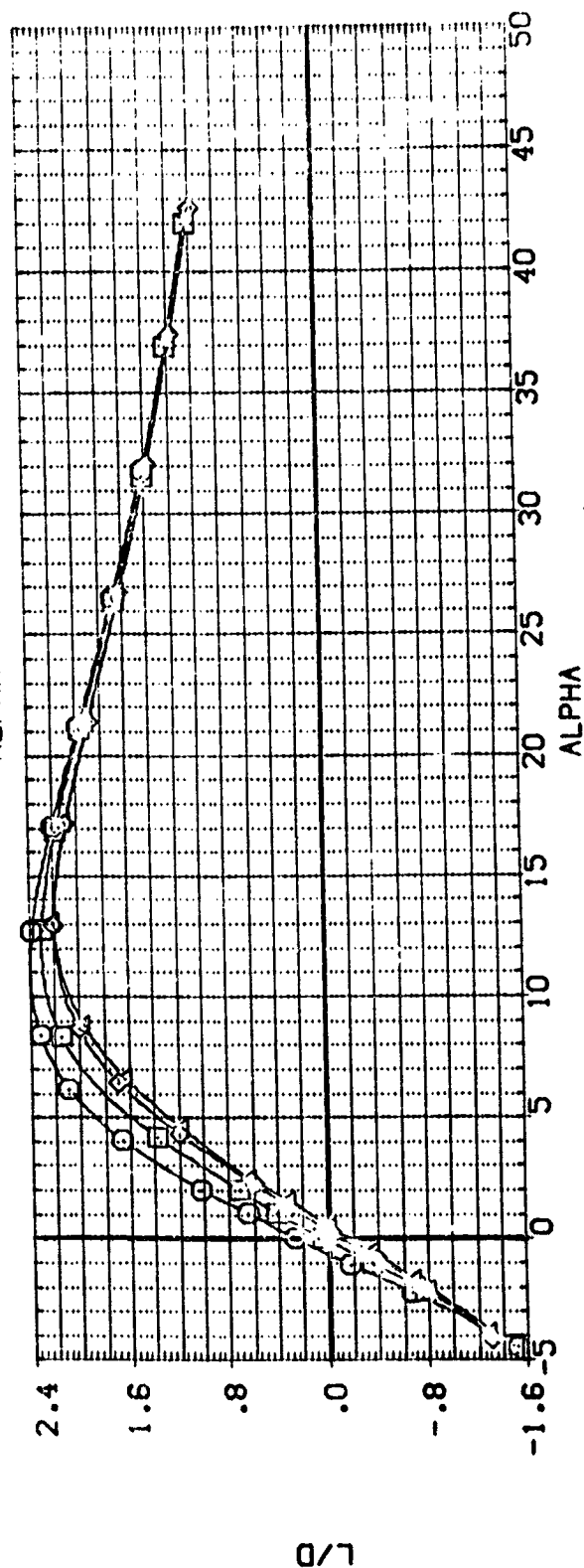
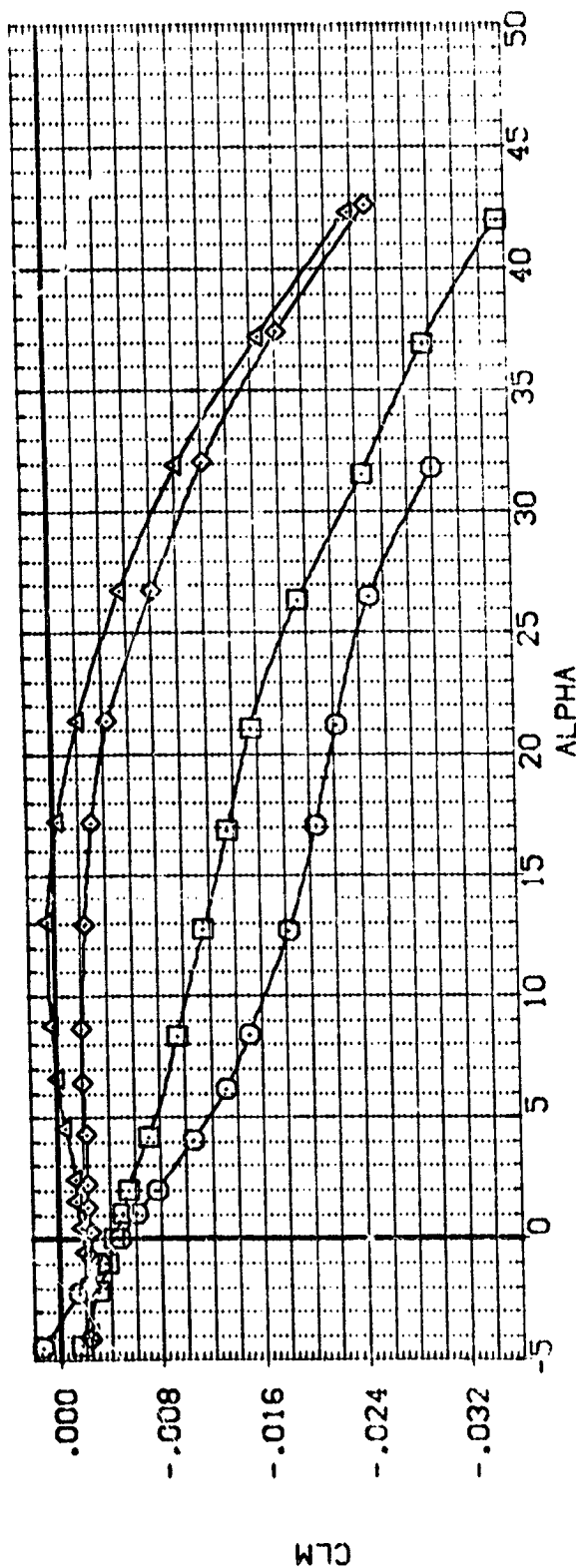
SYMBOL  
 ○ □ ◇ △

MACH  
 2.360  
 2.860  
 3.960  
 4.630

PARAMETRIC VALUES  
 BETA .000  
 LAMDAF 46.800  
 BOFLAP .000

WINGO 2.000  
 ELEVTR .000  
 RUJFLR .000

REFERENCE INFORMATION  
 SREF 171.4720  
 LREF 25.5100  
 BREF 20.3597  
 XMRP 16.8366  
 YMRP .0000  
 ZMRP .0000  
 SCALE .0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=46.8 DEG.)

LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP8001)

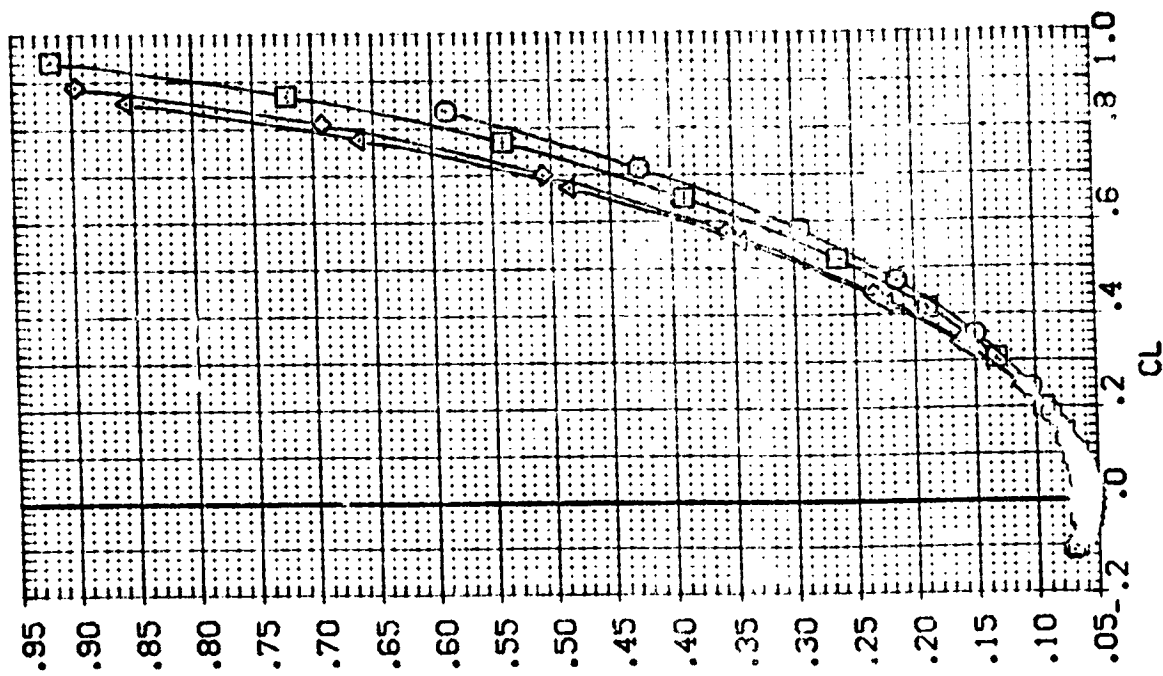
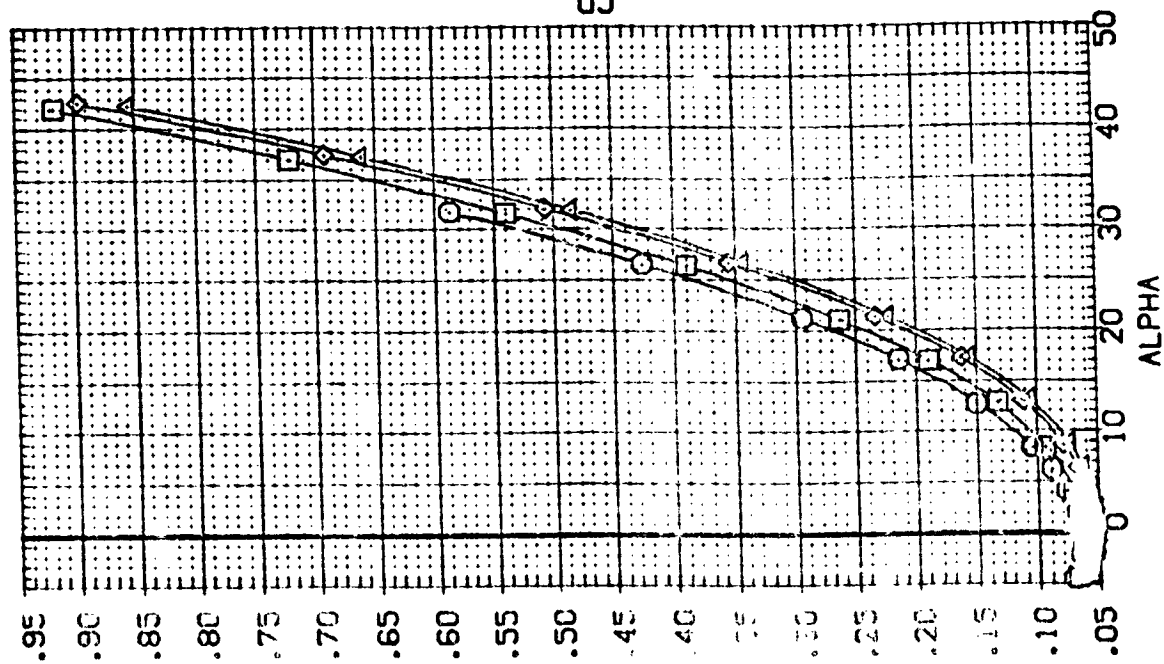
SY-BOL  
 ○ □ ◇ △

MACH  
 2.360  
 2.360  
 3.960  
 4.530

BETA  
 .000  
 .000  
 .000

PARAMETRIC VALUES  
 .000 VINGC 2.000  
 46.800 ELEVTR .000  
 .000 R-OF-LR .000

REFERENCE INFORMATION  
 SREF 171.4720 50 IN.  
 LREF 25.5100 INCHES  
 BREF 20.3597 INCHES  
 XPRP 16.8365 INCHES  
 YPRP .0000 INCHES  
 ZPRP .0000 INCHES  
 SCALE .0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=46.8 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP80003)

SYMBOL  
○ □ ◇ △

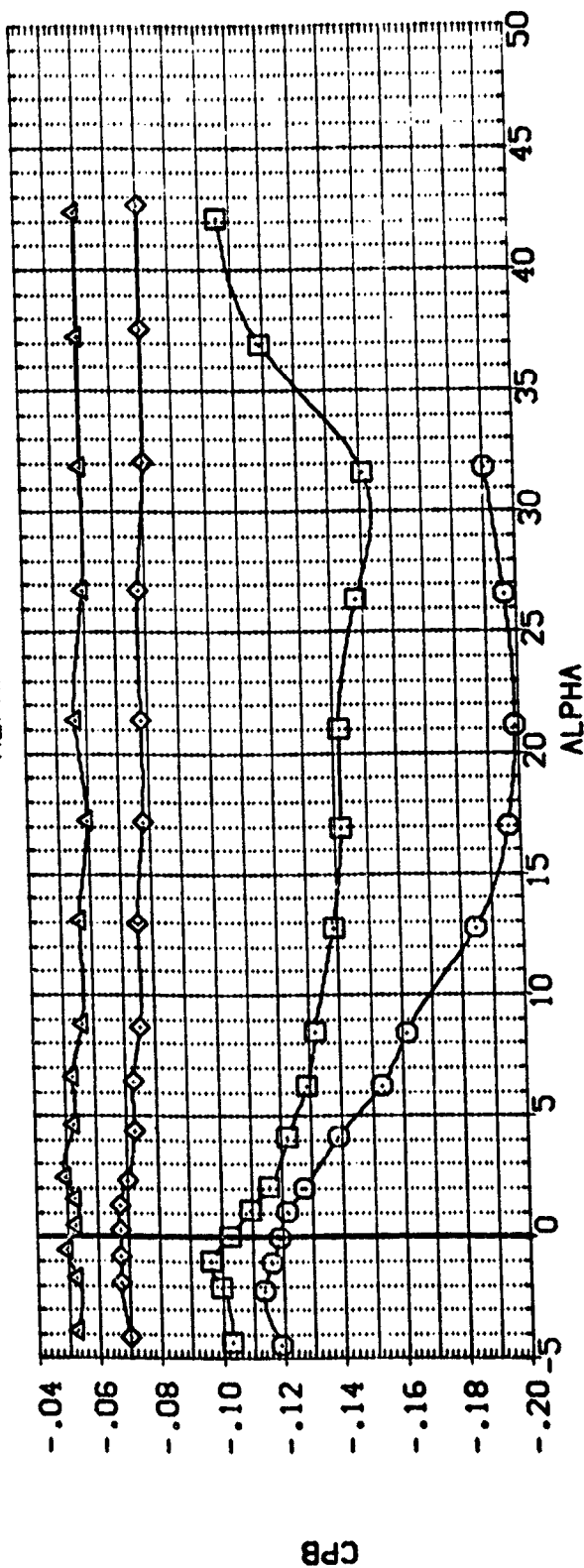
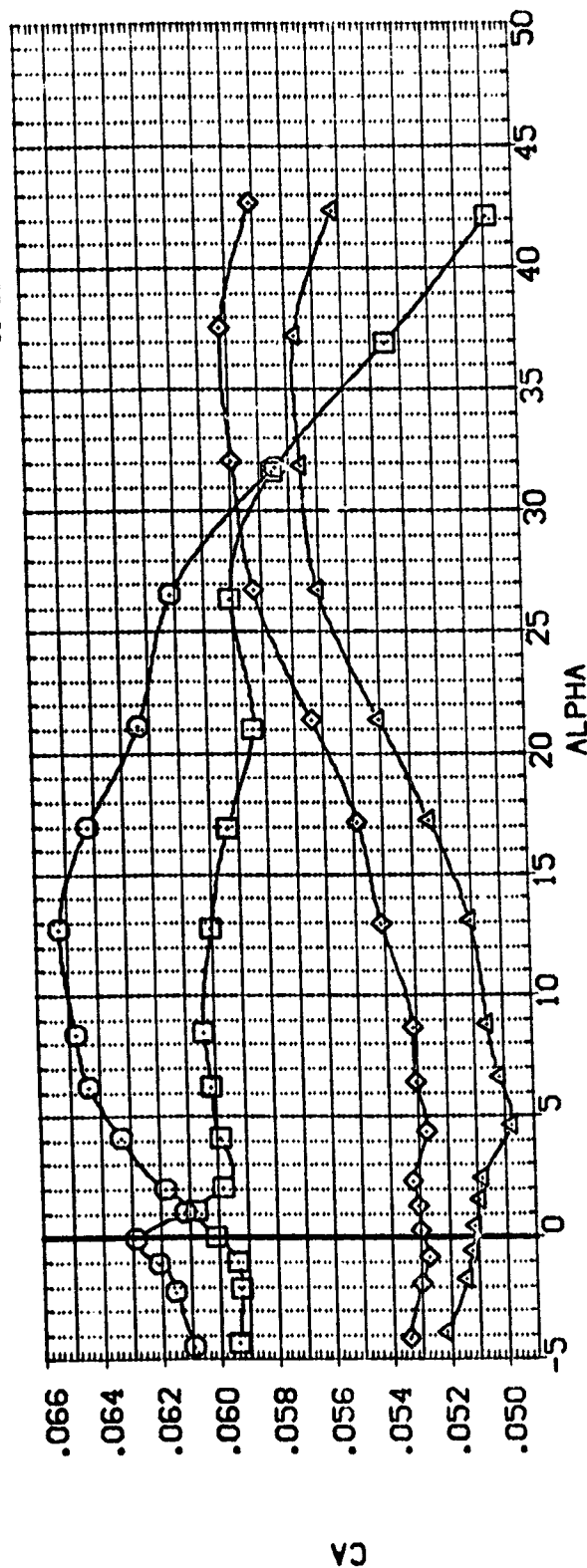
MACH  
2.360  
2.860  
3.960  
4.630

BETA  
LAWAF  
BOFLAP

PARAMETRIC VALUES  
.000 VINGNO  
55.000 ELE/TR  
.000 RUOFLR

2.000  
.000  
.000

REFERENCE INFORMATION  
SREF 1.4720 SQ.IN.  
LREF 25.5100 INCHES  
BREF 20.3597 INCHES  
XWPP 16.8366 INCHES  
YWPP .0000 INCHES  
ZWPP .0000 INCHES  
SCALE .0188

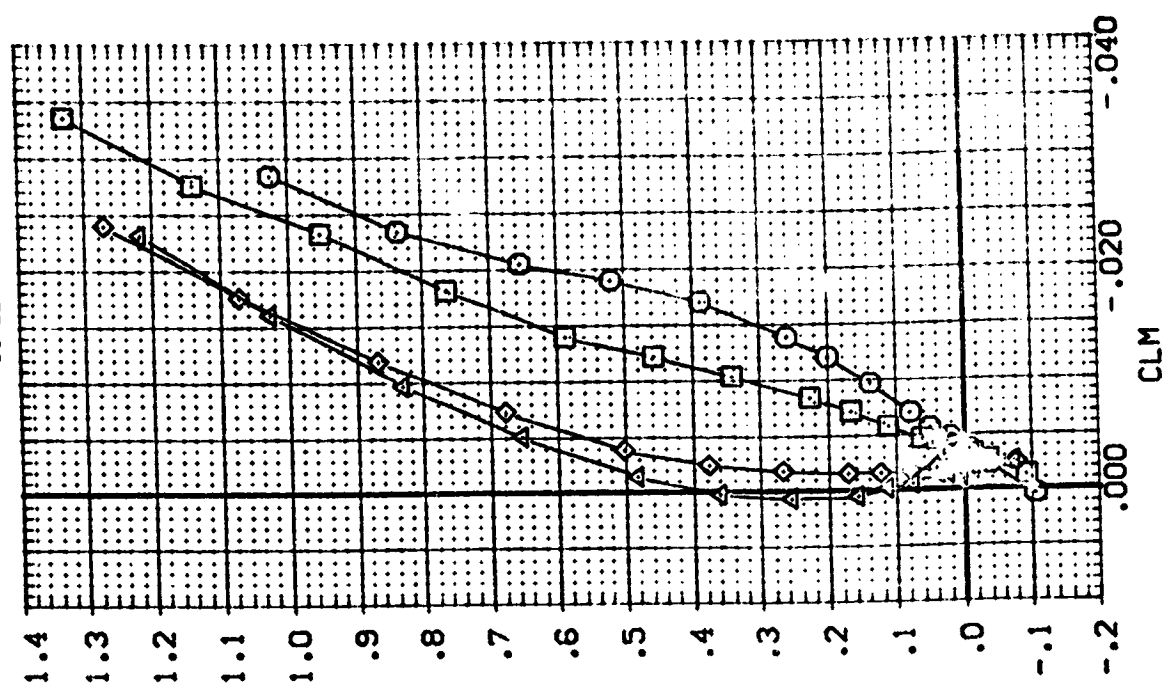
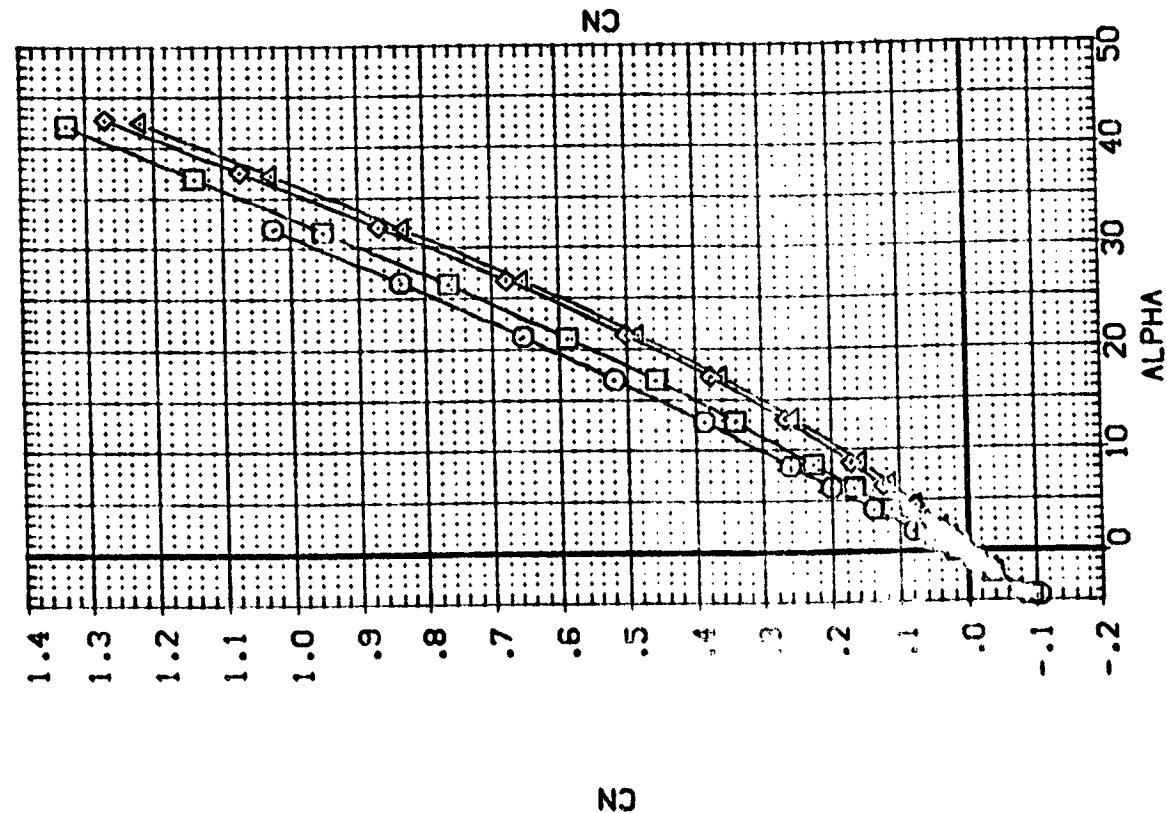


EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=55 DEG.)

# LA-10 LARC UPWT 1015 0-100 GRB.(SHIPS) (BW2VFB) (BP80003)

SYMBOL	MACH	BETA	PARAMETRIC VALUES	WING	ELEVTR	RUDFLR
□	2.360	.000	WING	2.000	.000	.000
◇	2.860	.000	ELEVTR	.000	.000	.000
△	3.960	.000	RUDFLR	.000	.000	.000
	4.630					

REFERENCE INFORMATION	
SREF	171.4720
LREF	25.5100
BREF	20.3597
XMRP	16.8366
YMRP	.0000
ZMRP	.0000
SCALE	.0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=55 DEG.)

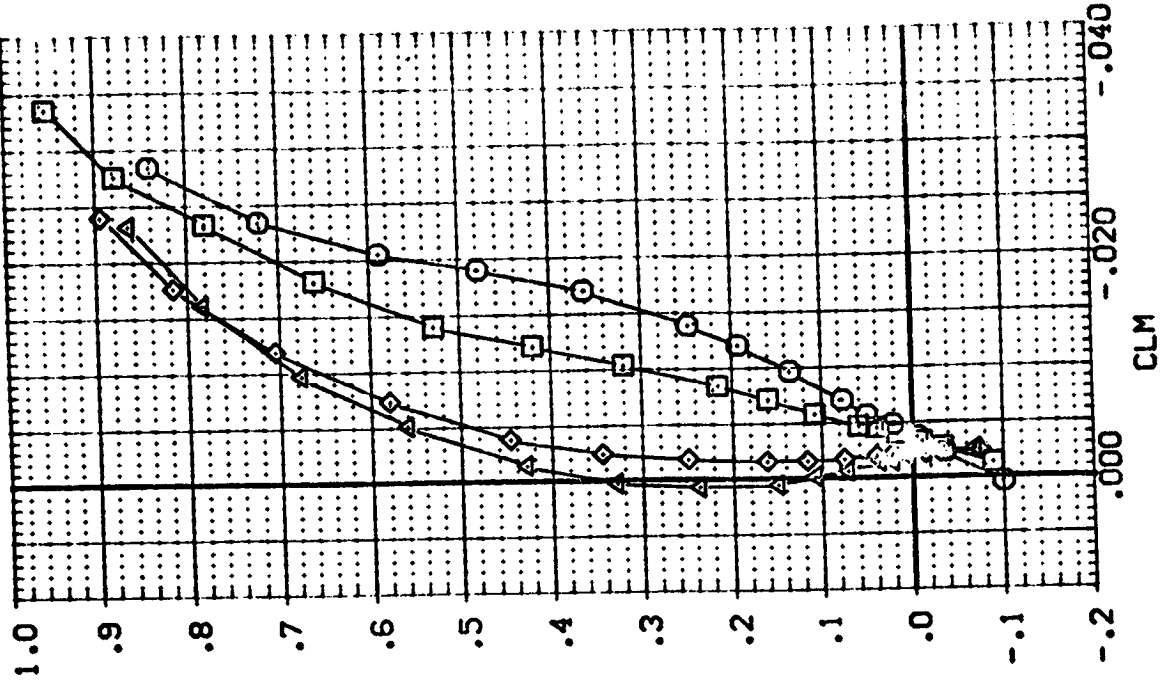
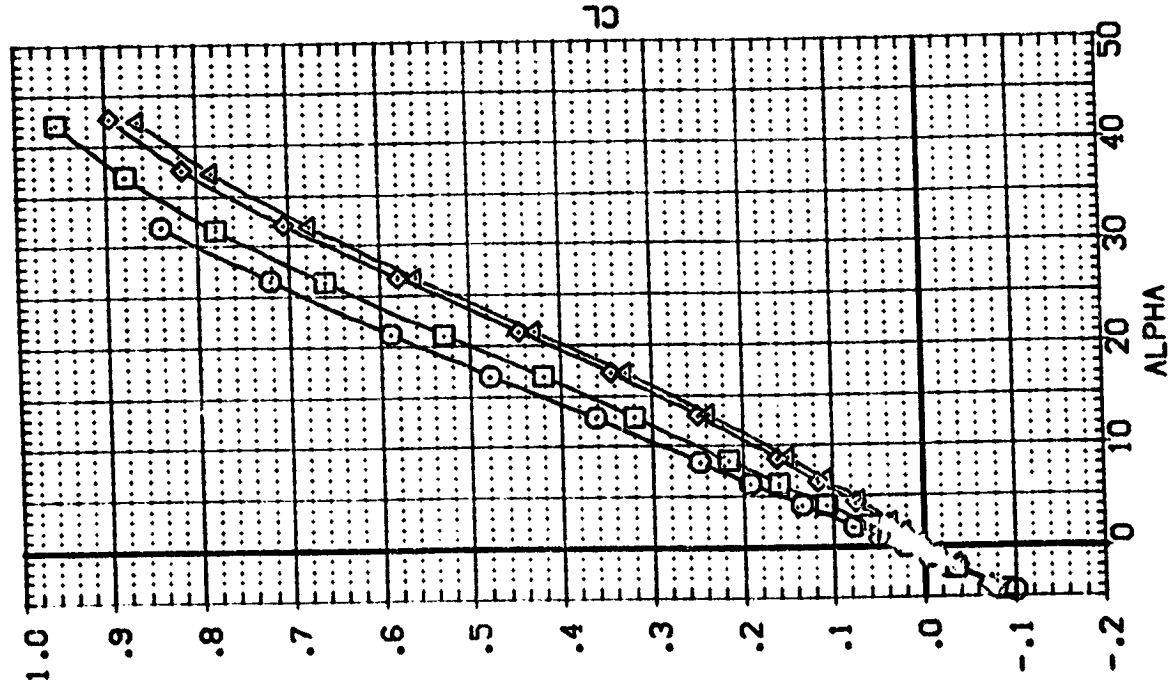


SYMBOL  
 ○ □ ◇ △

MACH  
 2.360  
 2.860  
 3.960  
 4.630

PARAMETRIC VALUES  
 BETA .000 VINGNO 2.000  
 LANDAF 55.000 ELEVTR .000  
 BOFLAP .000 RUOFLR .000

REFERENCE INFORMATION  
 SREF 171.4720 SQ. IN.  
 LREF 25.5100 INCHES  
 BREF 20.2697 INCHES  
 XMRP 16.8356 INCHES  
 YMRP .0000 INCHES  
 ZMRP .0000 INCHES  
 SCALE .0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=55 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP80003)

SYMBOL

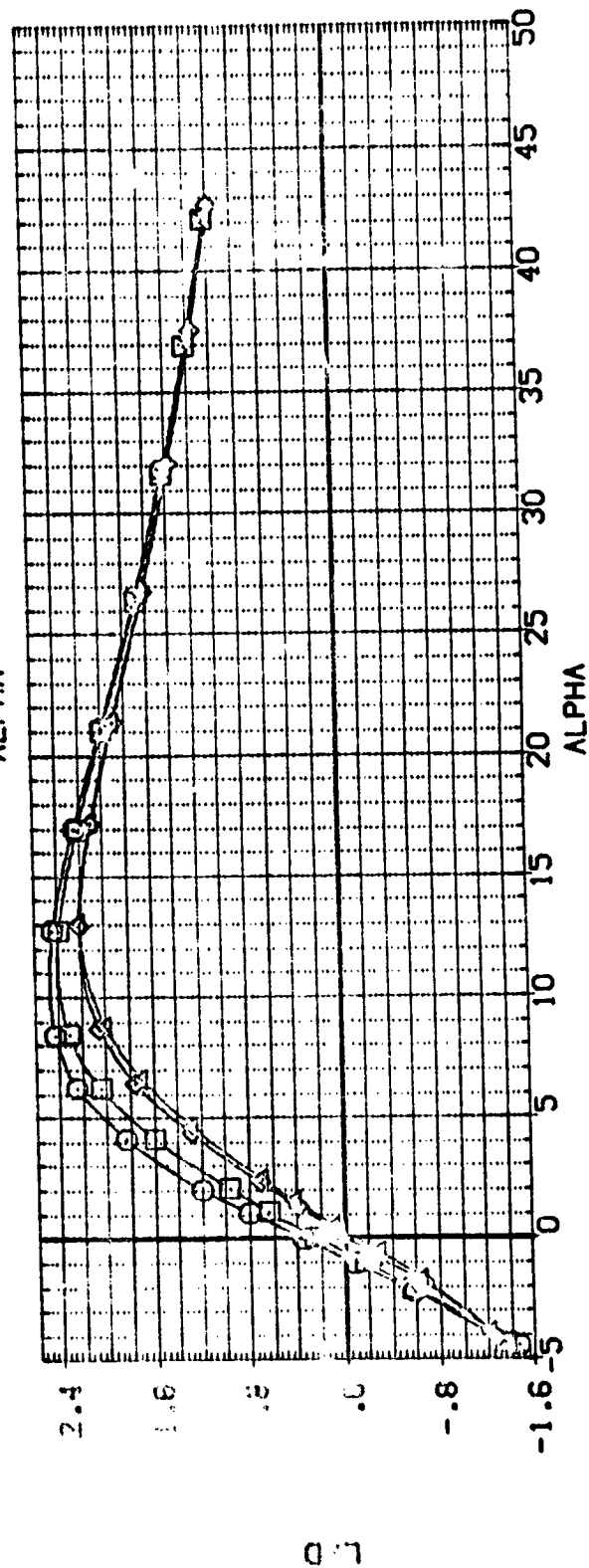
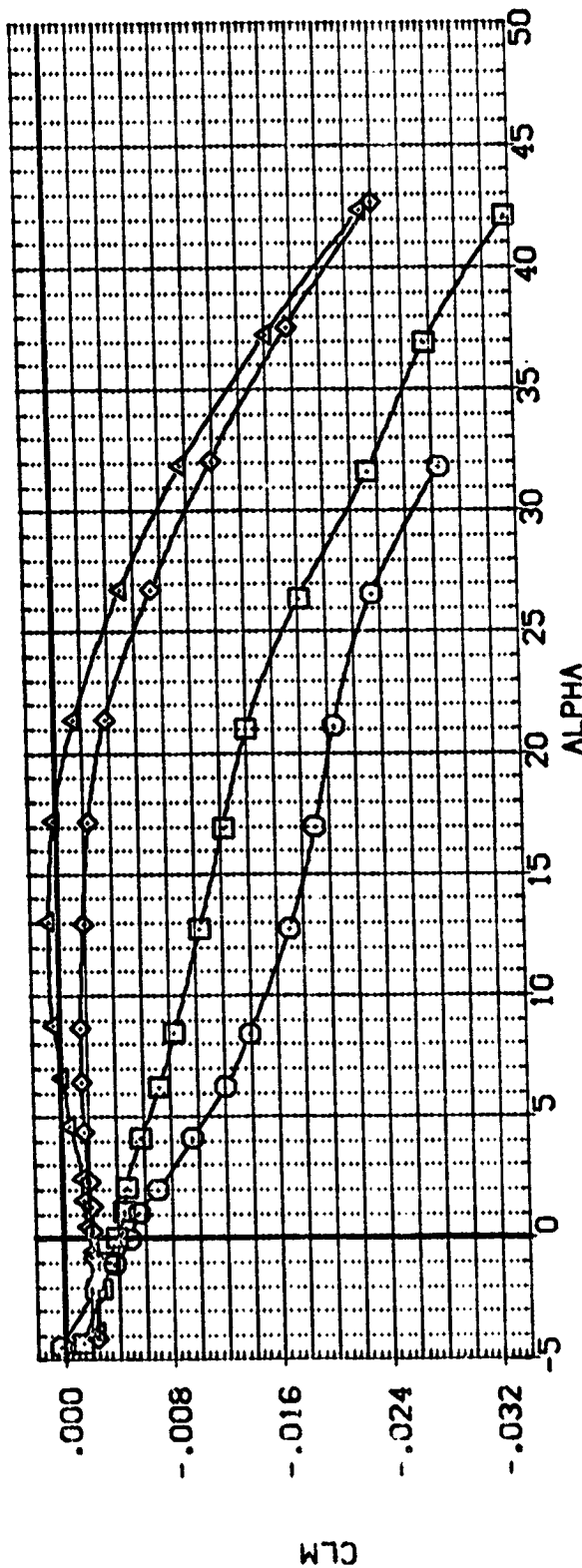
MACH  
2.360  
2.860  
3.960  
4.630

BETA  
LAMDAP  
BOFLAP

PARAMETRIC VALUES  
.000 VINGNO  
55.000 ELEVTR  
.000 RUDFLR

2.000  
.000  
.000

REFERENCE INFORMATION  
SREF 171.4720 SQ.IN.  
LREF 25.5100 INCHES  
BREF 20.3597 INCHES  
XTRP 16.8365 INCHES  
YTRP .0000 INCHES  
ZTRP .0000 INCHES  
SCALE .0189

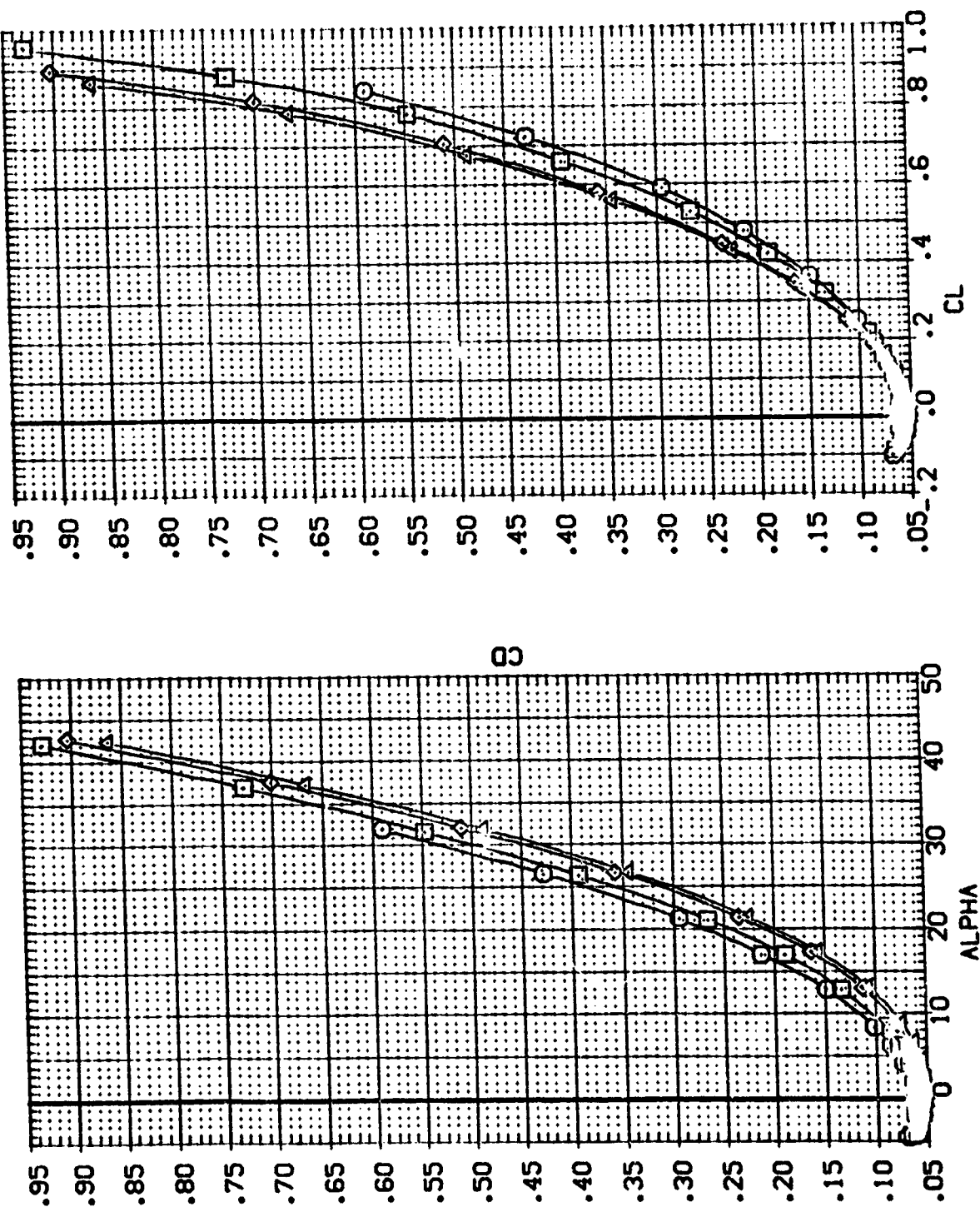


EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=55 DEG.)

LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB)(BP8003)

SYMBOL	MACH	BETA	PARAMETRIC VALUES	2.000
○	2.360	.000	VINGNO	.000
□	2.860	55.000	ELEVTR	.000
◇	3.960	.000	RJOLR	.000
△	4.630			

REFERENCE INFORMATION	
SREF	171.4720
LREF	25.5100
BREF	20.3597
XPRP	16.8366
YPRP	.0000
ZPRP	.0000
SCALE	.0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=55 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP80004)

SYMBOL  
○ □ ◇ △

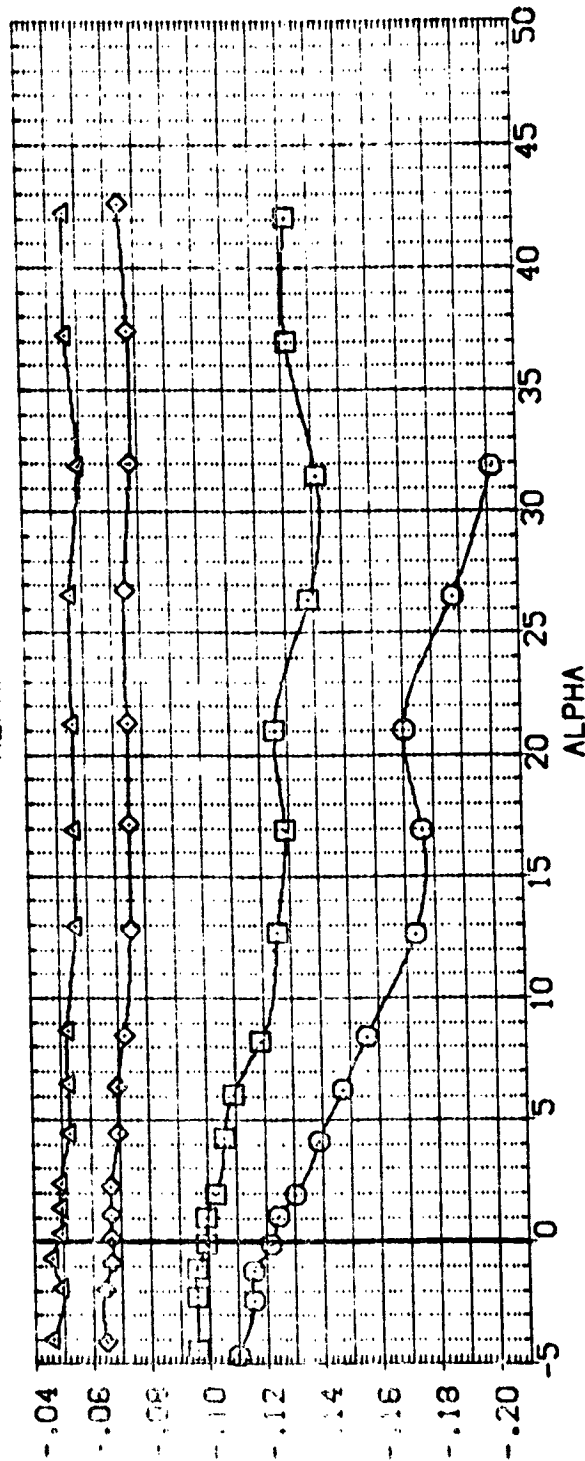
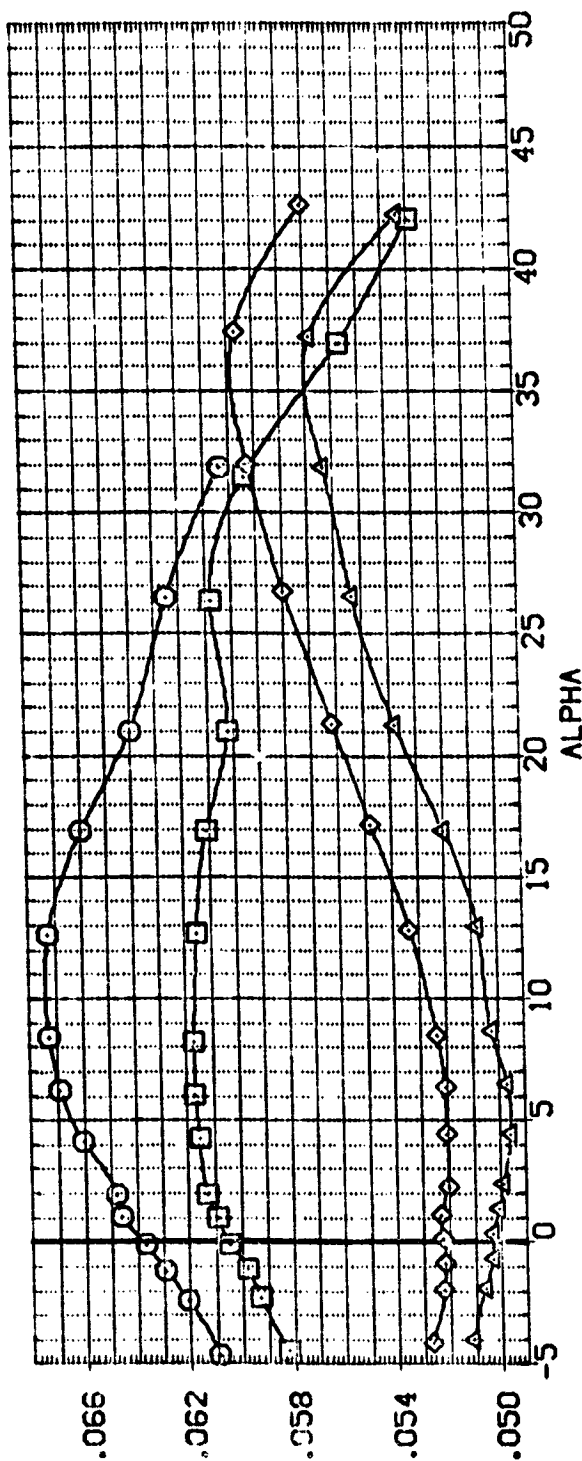
MACH  
2.360  
2.850  
3.960  
4.520

BETA  
LAMBDA  
BOFLAP

PARAMETRIC VALUES  
.000 VINGNO  
50.000 ELEVTR  
.000 RUCFLR

SREF  
LREF  
BREF  
XMRP  
ZMRP  
SCALE

REFERENCE INFORMATION  
171.4720  
25.5100  
20.3597  
15.8366  
.0000  
.0000  
.0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=60 DEG.)

LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (RW2VFB) (BP80004)

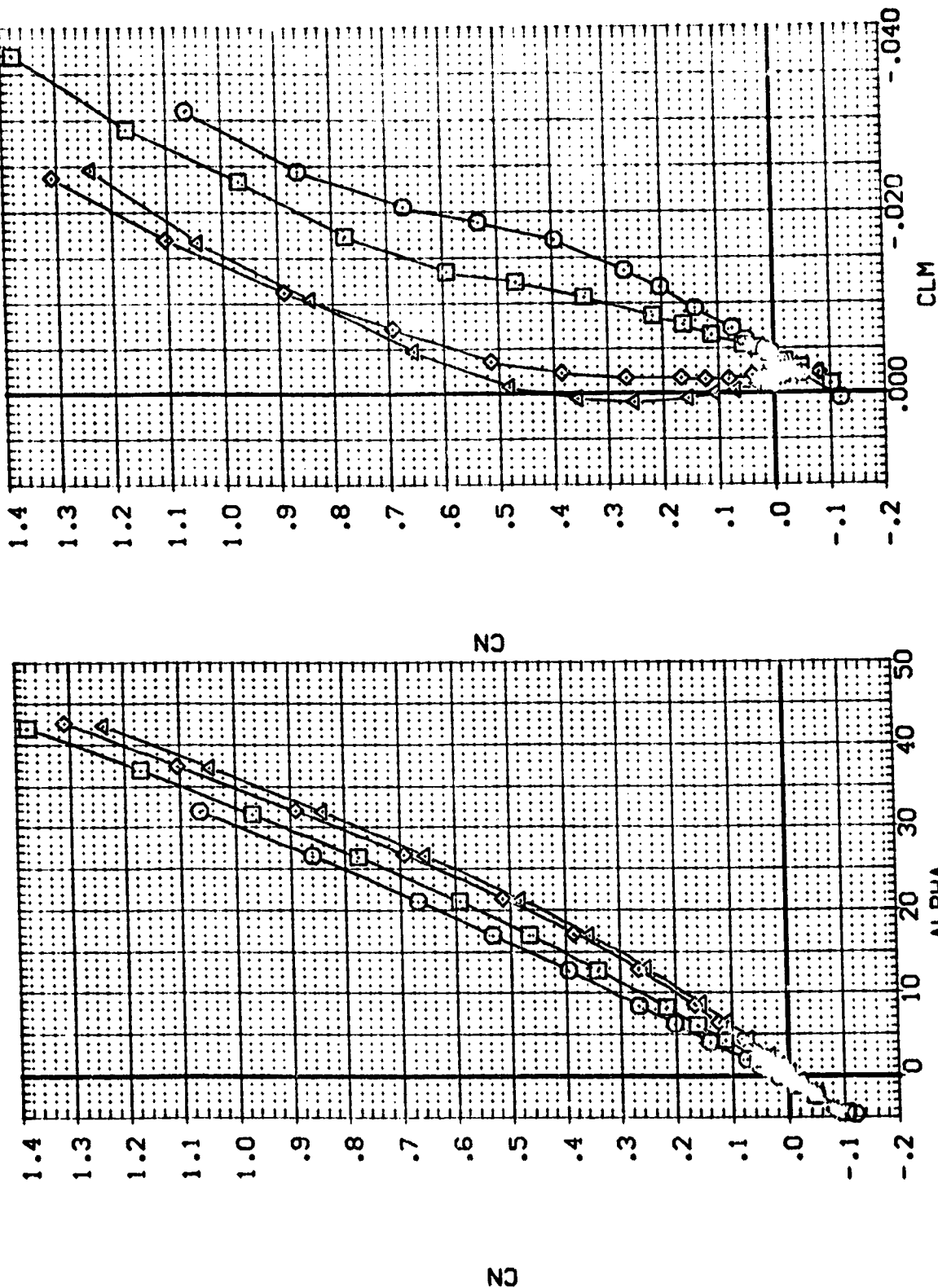
SYMBOL  
 ○ □ ◇ △

MACH  
 2.360  
 2.860  
 3.960  
 4.530

BETA  
 .000  
 .000  
 .000  
 .000

PARAMETRIC VALUES  
 WINGNO 2.000  
 ELEVTR .000  
 RUDELR .000

REFERENCE INFORMATION  
 SREF 171.4720 SC.IN.  
 LREF 25.5100 INCHES  
 BREF 20.2597 INCHES  
 XWRP 16.8366 INCHES  
 YWRP .0000 INCHES  
 ZWRP .0000 INCHES  
 SCALE .0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=60 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP8004)

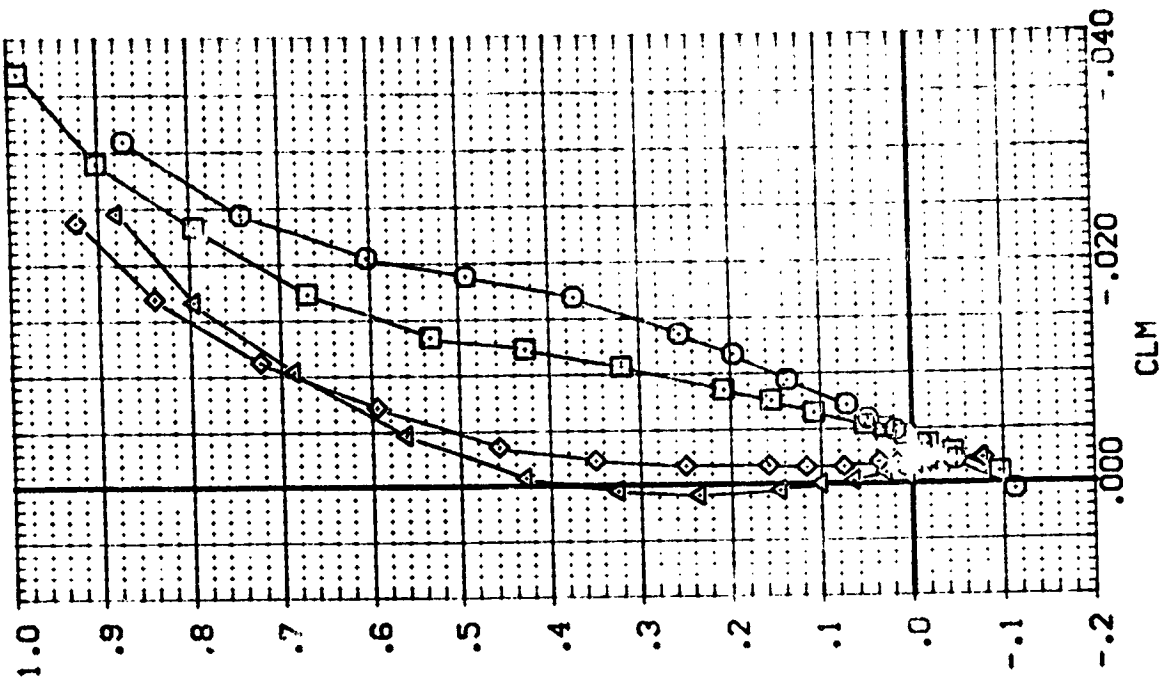
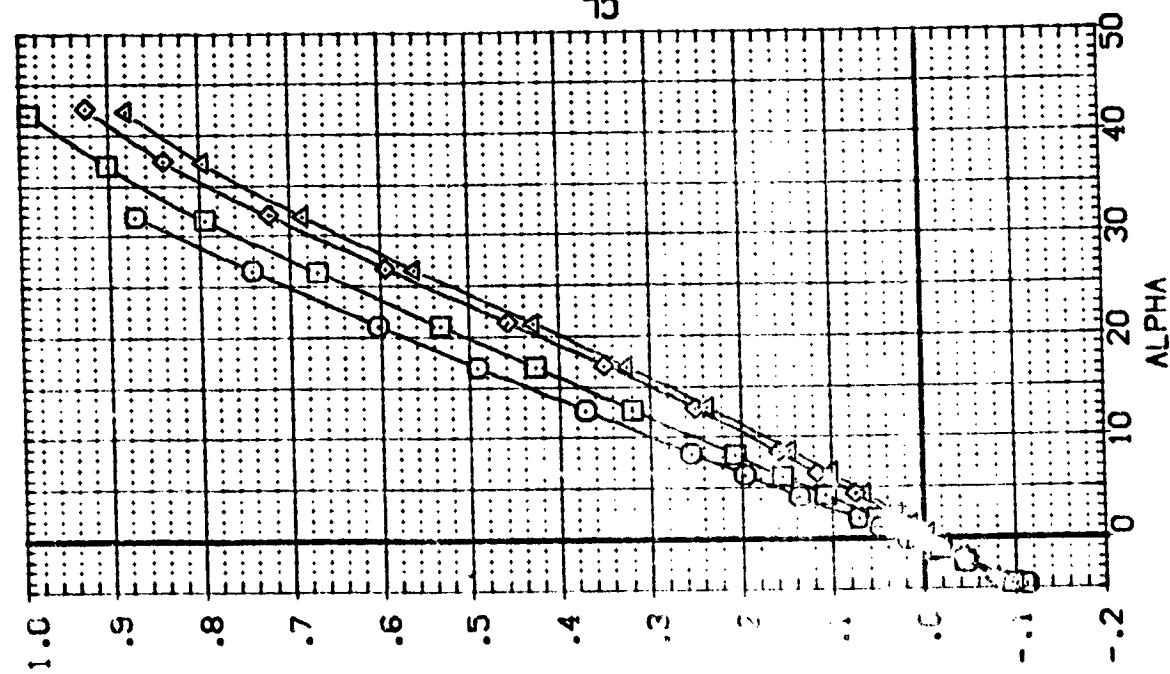
SYMBOL  
 ○ □ ◇ △

MACH  
 2.360  
 2.800  
 3.960  
 4.630

BETA  
 .000  
 60.000  
 .000  
 .000

PARAMETRIC VALUES  
 VINGNO 2.000  
 ELEVTR .000  
 RJDFLR .000

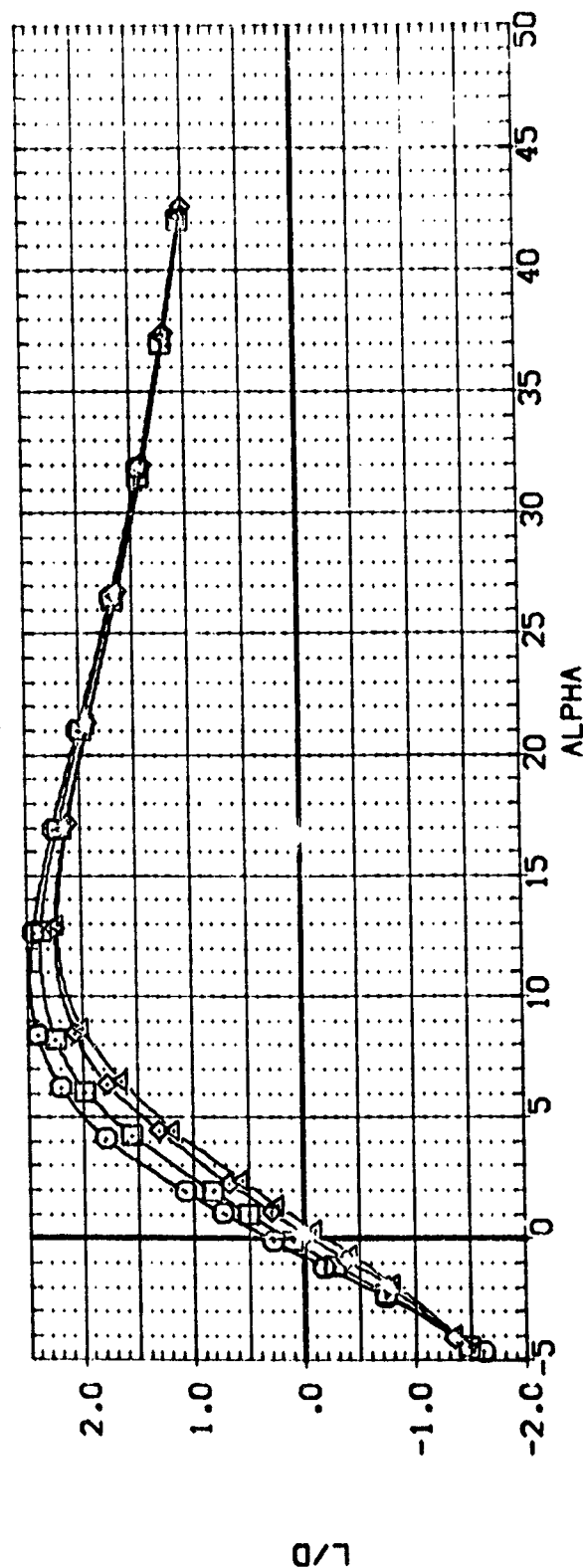
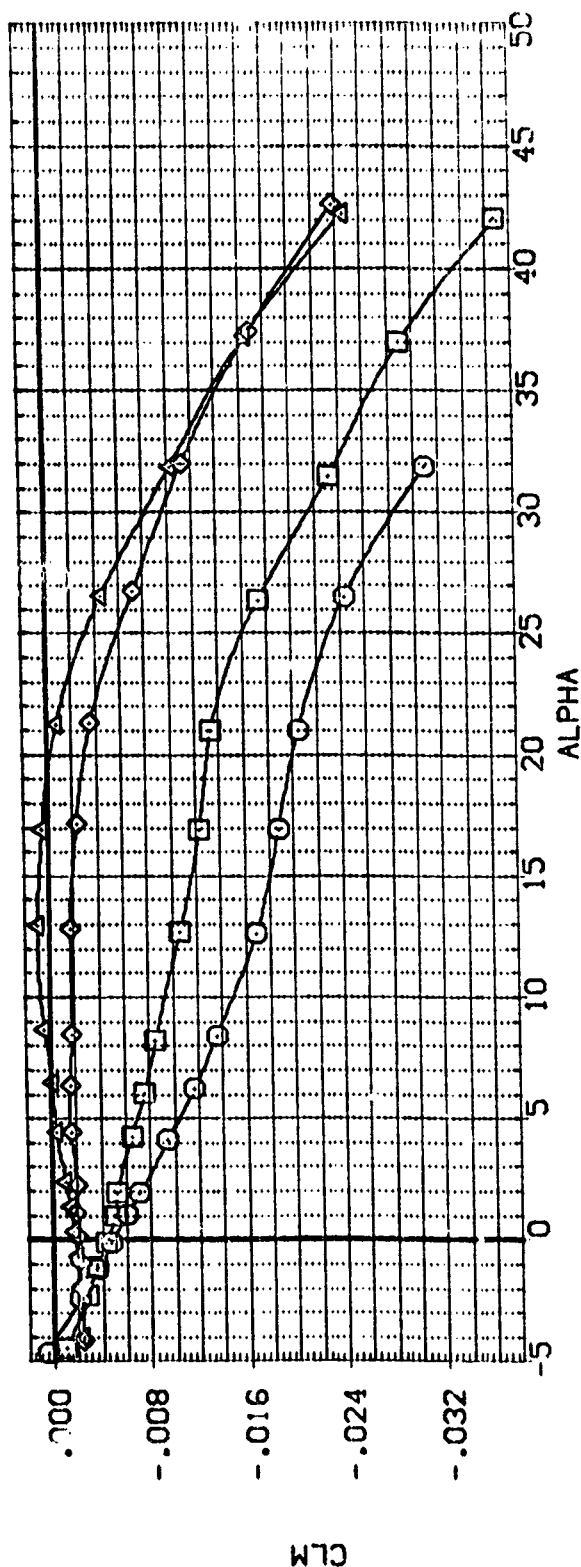
REFERENCE INFORMATION  
 SREF 171.4720 SQ.IN.  
 LREF 25.5100 INCHES  
 BREF 20.3597 INCHES  
 XMRP 16.8366 INCHES  
 YMRP .0000 INCHES  
 ZMRP .0000 INCHES  
 SCALE .0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=60 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP80004)

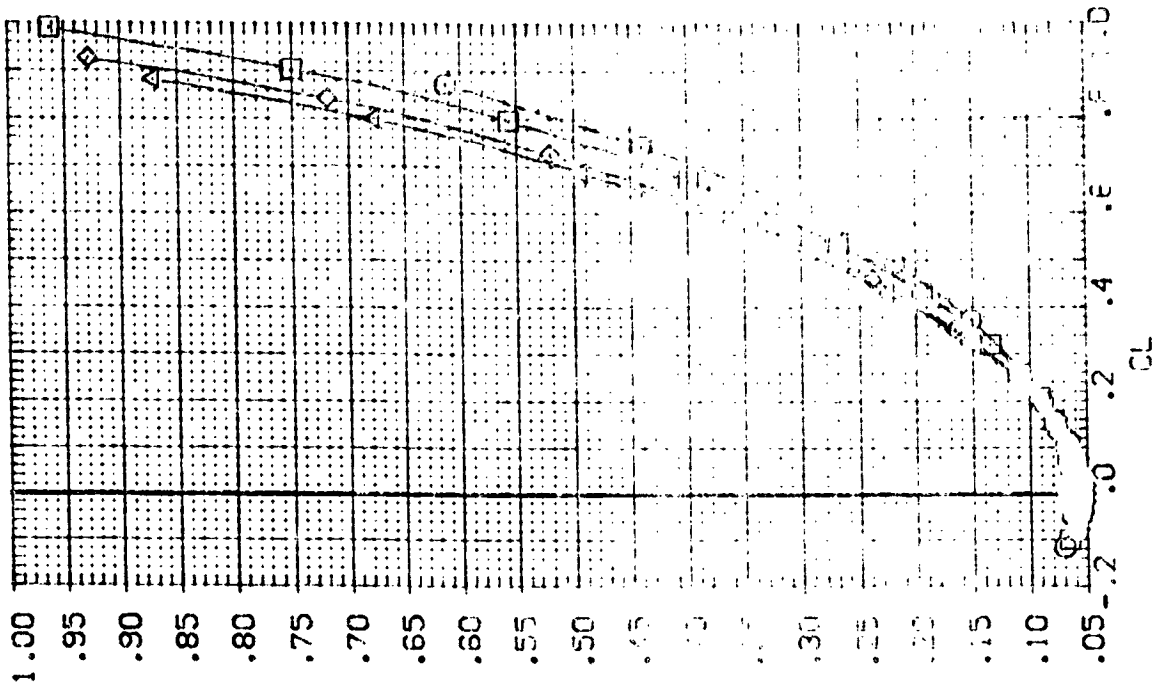
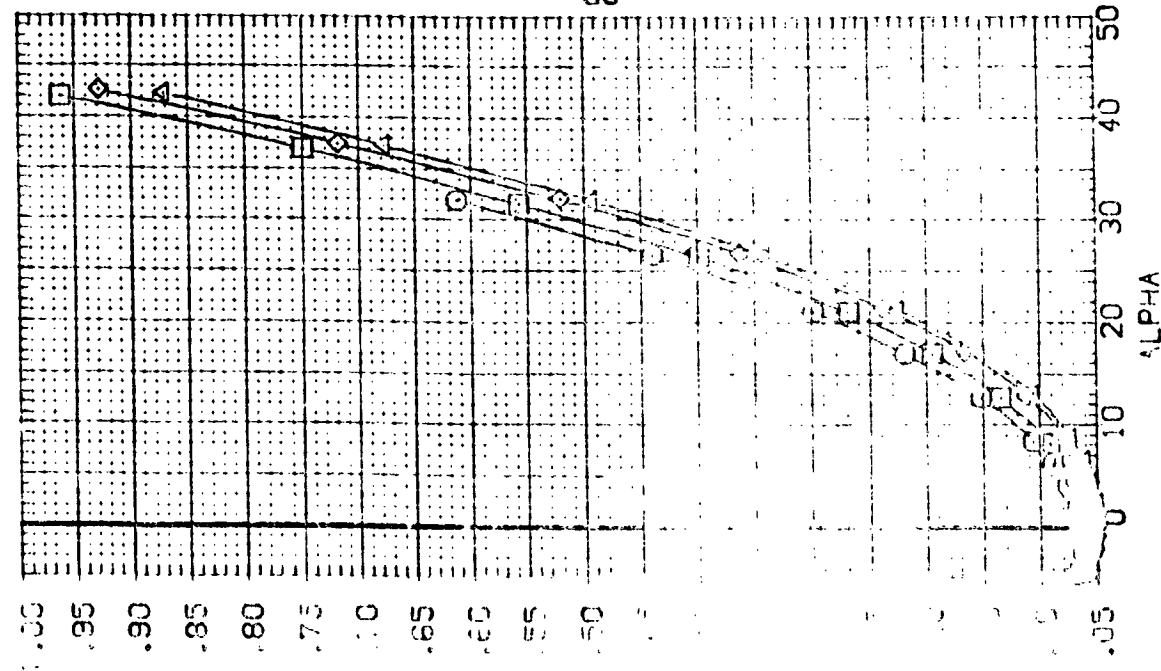
SYMBOL	MACH	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	2.360	.000	WINGNO 2.000	SREF 171.4720
□	2.860	.000	ELEVTR .000	LREF 25.5100
◇	3.950	.000	RUDFLR .000	BREF 20.3557
△	4.630	.000		YMRP 16.8356
				ZMRP .0000
				SCALE .0189



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=60 DEG.)

# LA-1C LARC UPWT 1015 LC-100 ORB.(SHIPS) (BW2VFB)(BP80004)

SYMBOL	MACH	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
□	2.380		.000 VINGC 2.000	SREF 171.4720 50.1N
○	2.860	LAMDAF	60.000 ELEVTR .000	LREF 25.5100 INCHES
◇	3.560	BOFLAP	.000 R-OF-LR .000	BREF 70.3597 INCHES
△	4.520			YREF 5.8365 INCHES
				YREF 0.000 INCHES
				ZREF 0.000 INCHES
				SCALE 0.28



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=60 DEG.)



# LA-10 LARC UPWT 10:5 L0-100 ORB.(SHIPS) (BW2VFB) (BP8005)

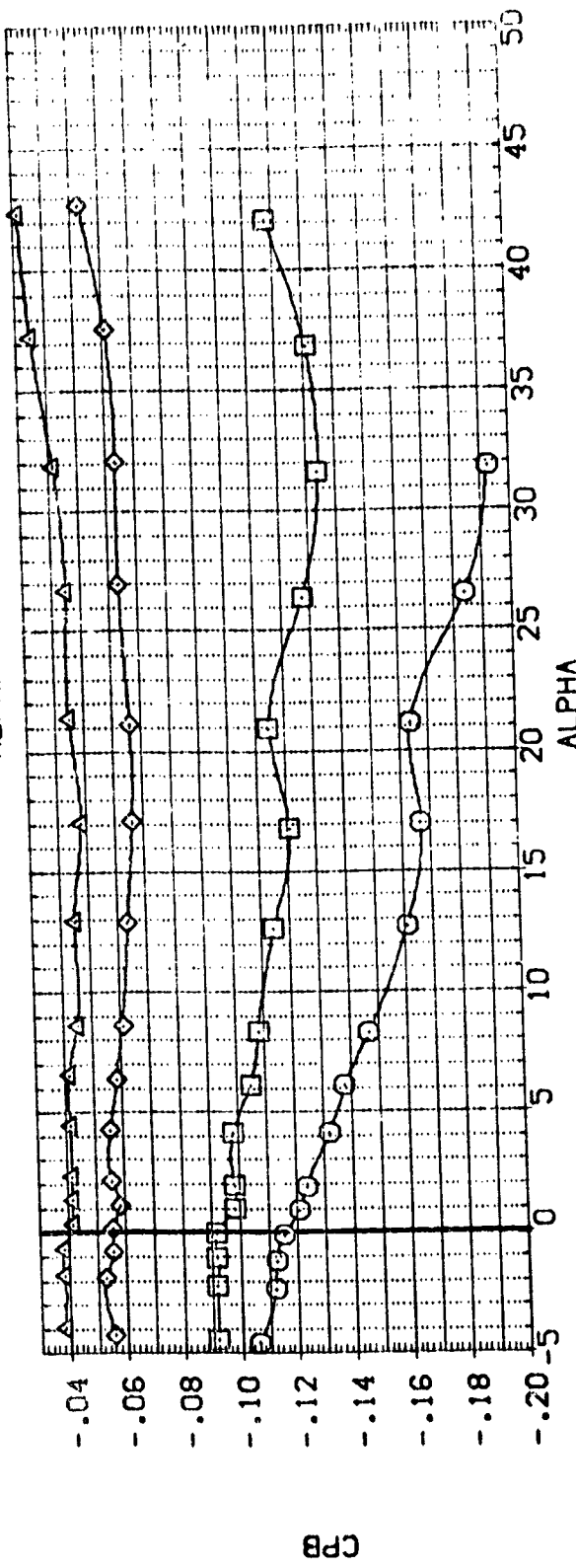
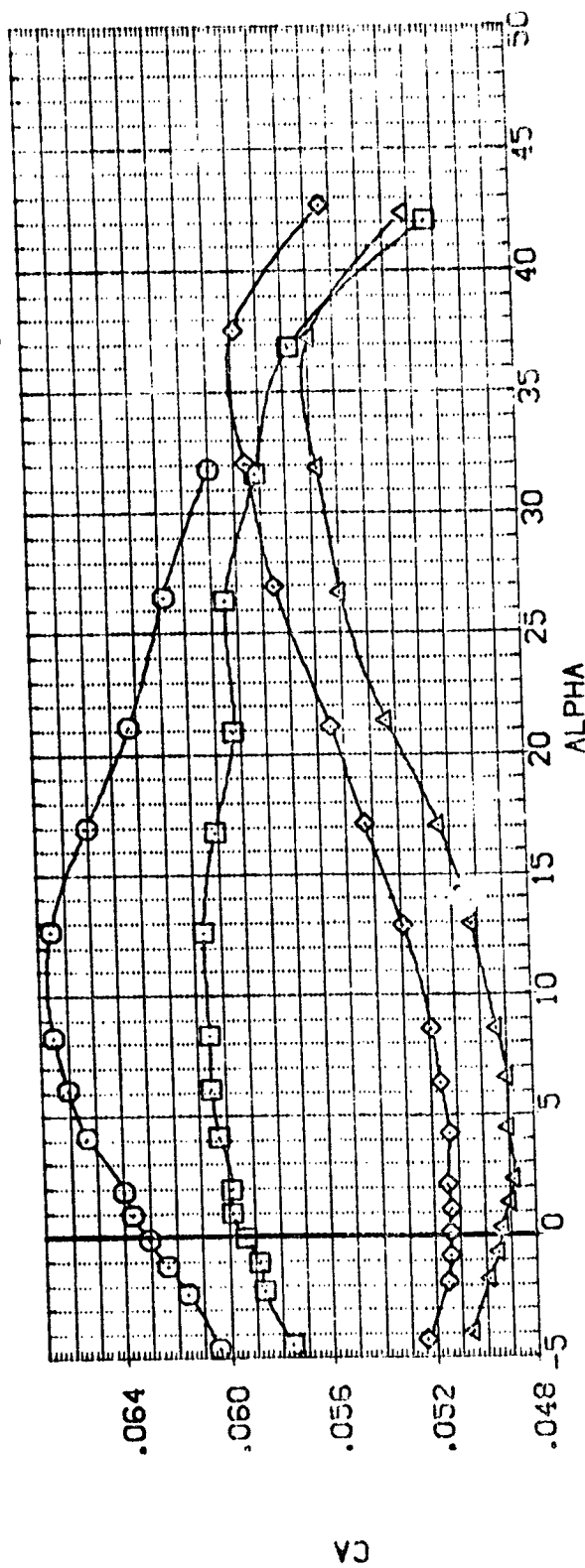
SYMBOL  
○  
□  
◇  
△

MACH  
2.360  
2.860  
3.960  
4.630

BETA  
LA'DAF  
BOFLAP

PARAMETRIC VALUES  
.000 VINGNO 2.000  
65.000 ELEVTR .000  
.000 RJOFLR .000

REFERENCE INFORMATION  
SREF 171.4720  
LREF 25.5100  
BREF 20.3597  
XMRP 16.8366  
YMRP .0000  
ZMRP .0000  
SCALE .0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=65 DEG.)

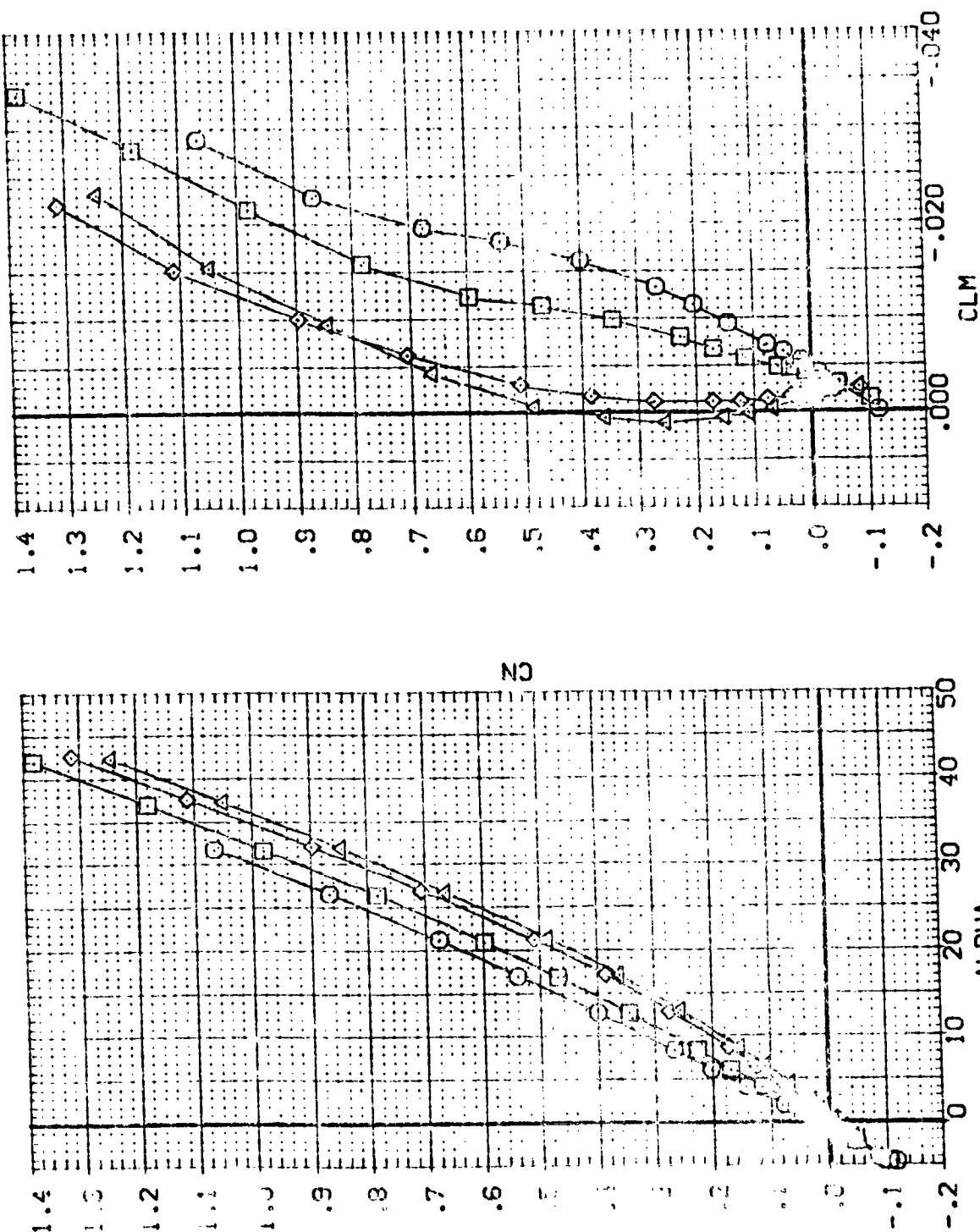
# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP8005)

REFERENCE INFORMATION  
 SREF 171.4720  
 LREF 25.5100  
 BREF 30.3597  
 XREF 8366  
 YREF 5000  
 ZREF 5000  
 SCALE .0188

MACH 2.360  
 2.600  
 2.800  
 3.000  
 3.200

PARAMETRIC VALUES  
 .000 WING  
 .000 ELEVTR  
 .000 RUDFLR  
 .000

SYMBOL  
 ○  
 □  
 ◇  
 △



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=65 DEG.)

# LA-10 LARC UPWT 1015 LQ-100 ORB.(SHIPS) (BW2VFB) (BP8005)

SYMBOL  
 ○ □ ◇ △

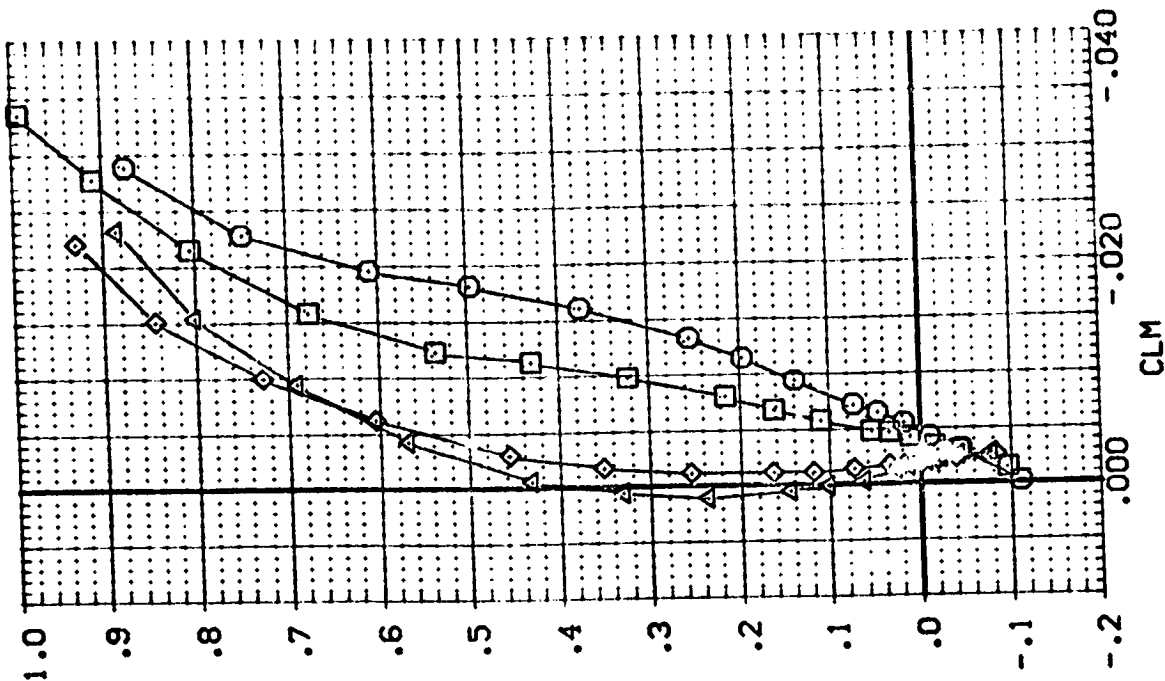
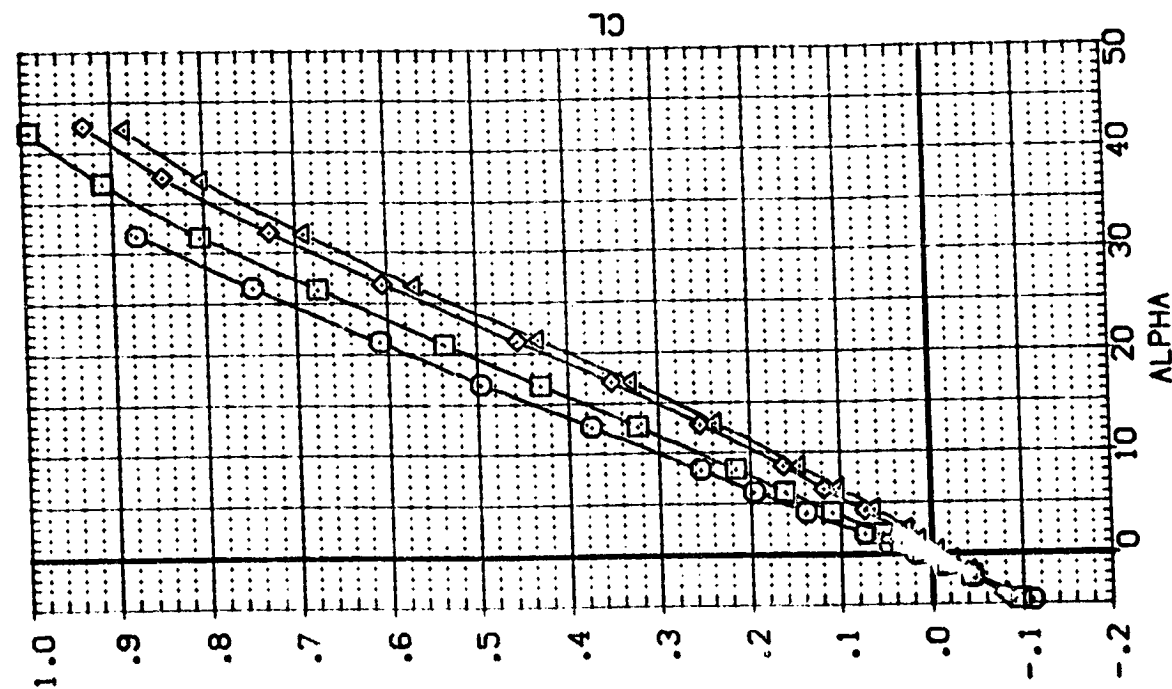
MACH  
 2.360  
 2.850  
 3.950  
 4.630

BETA  
 LANDAF  
 BOFLAP

## PARAMETRIC VALUES

.000 VINGNO 2.000  
 .000 ELEVTR .000  
 .000 RUOFLR .000

REFERENCE INFORMATION  
 SREF 171.4720 SQ. IN.  
 LREF 23.5100 INCHES  
 BREF 20.3597 INCHES  
 XMRP 16.8366 INCHES  
 YMRP .0000 INCHES  
 ZMRP .0000 INCHES  
 SCALE .0188

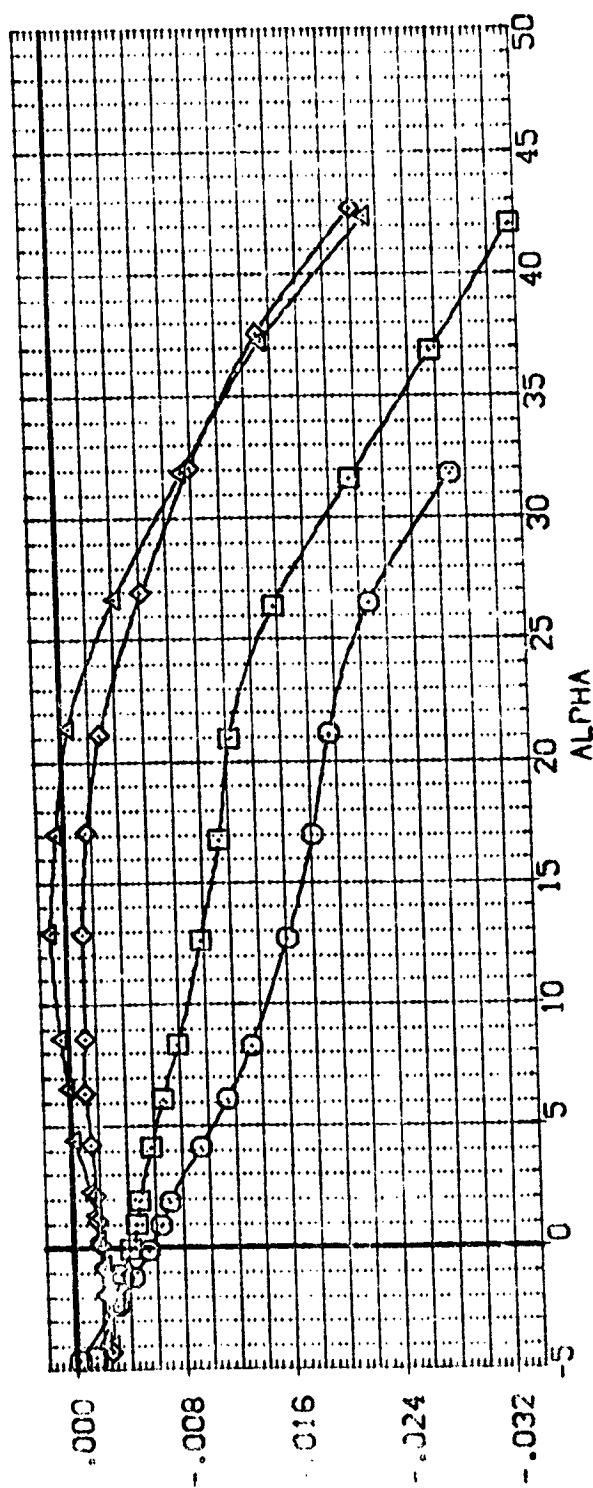


EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=65 DEG.)

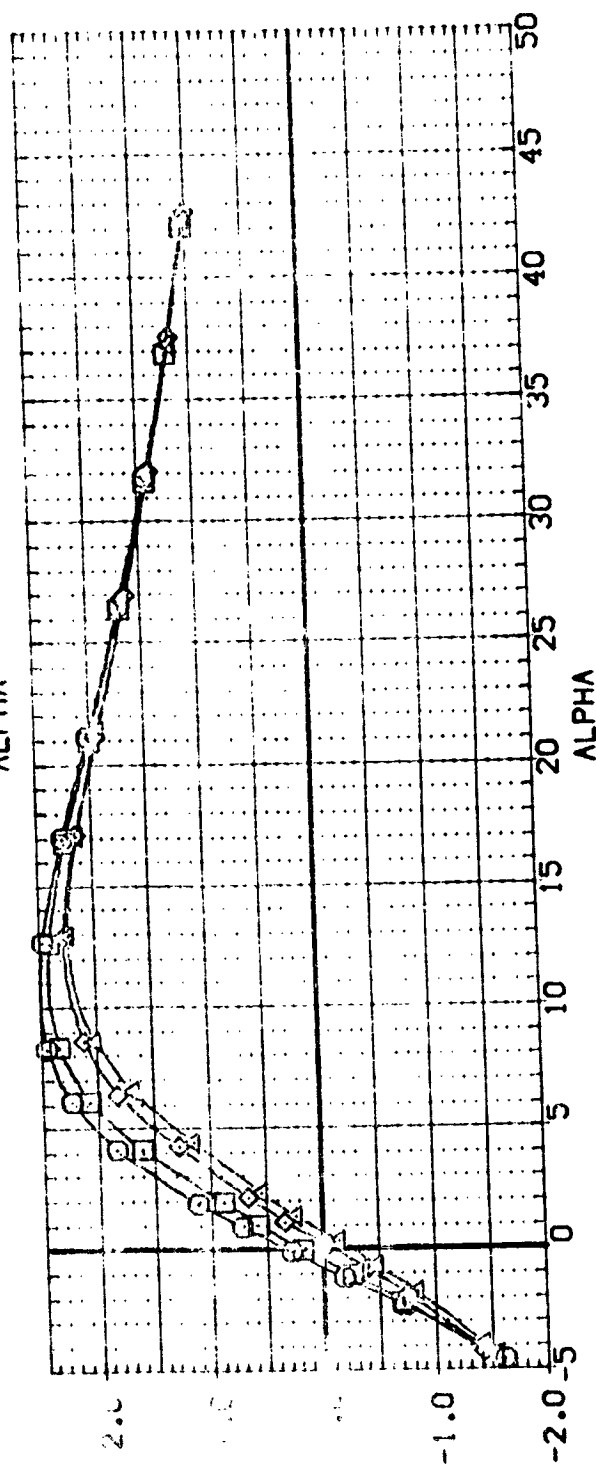
SYMBOL	MACH
○	2.360
□	2.860
◇	3.960
△	4.630

	PARAMETRIC VALUES
BETA	.000
LAMDAF	65.000
BOFLAP	.000
	2.000
	.000
	.000
	2.000

REFERENCE INFORMATION	
SREF	171.4720 SQ. IN.
LREF	25.5100 INCHES
BREF	23.3597 INCHES
XMRP	15.8366 INCHES
YMRP	.0000 INCHES
ZMRP	.0000 INCHES
SCALE	12188 SCALE



4-10

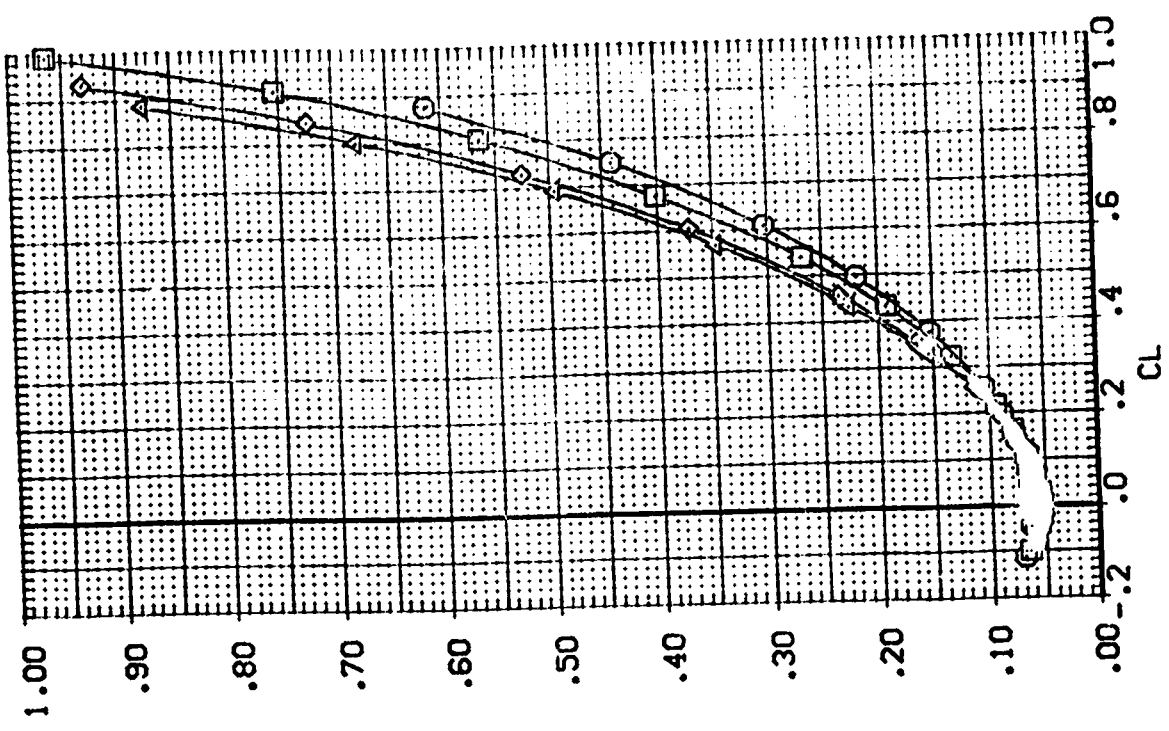
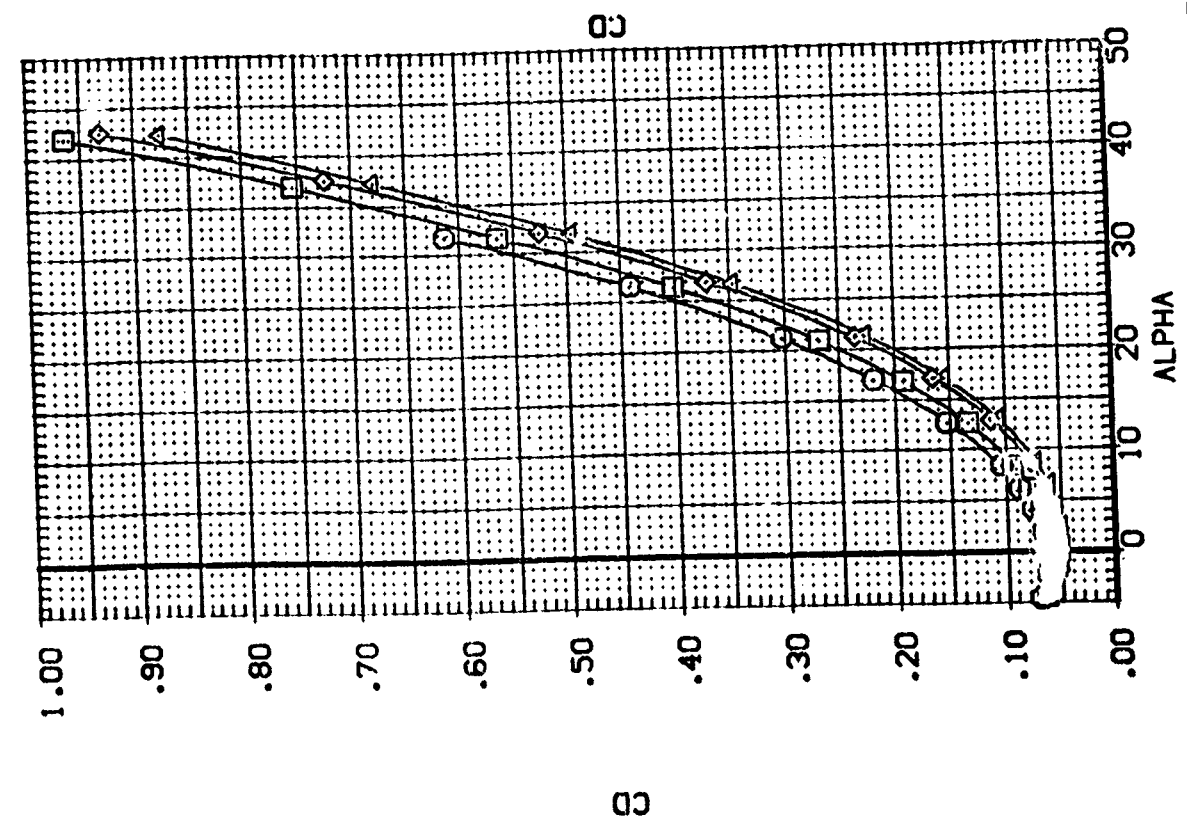


EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=65 DEG.)

LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP80005)

SYMBOL	MACH	BETA	PARAMETRIC VALUES
○	2.360		.000 WINGNO 2.000
□	2.860	LAMDAF	65.000 ELEVTR .000
◇	3.960	BOFLAP	.000 RUOFLLR .000
△	4.630		

REFERENCE INFORMATION	
SREF	171.4720
LREF	25.5100
BREF	20.3597
XMRP	16.8366
YMRP	.0000
ZMRP	.0000
SCALE	.0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=65 DEG.)

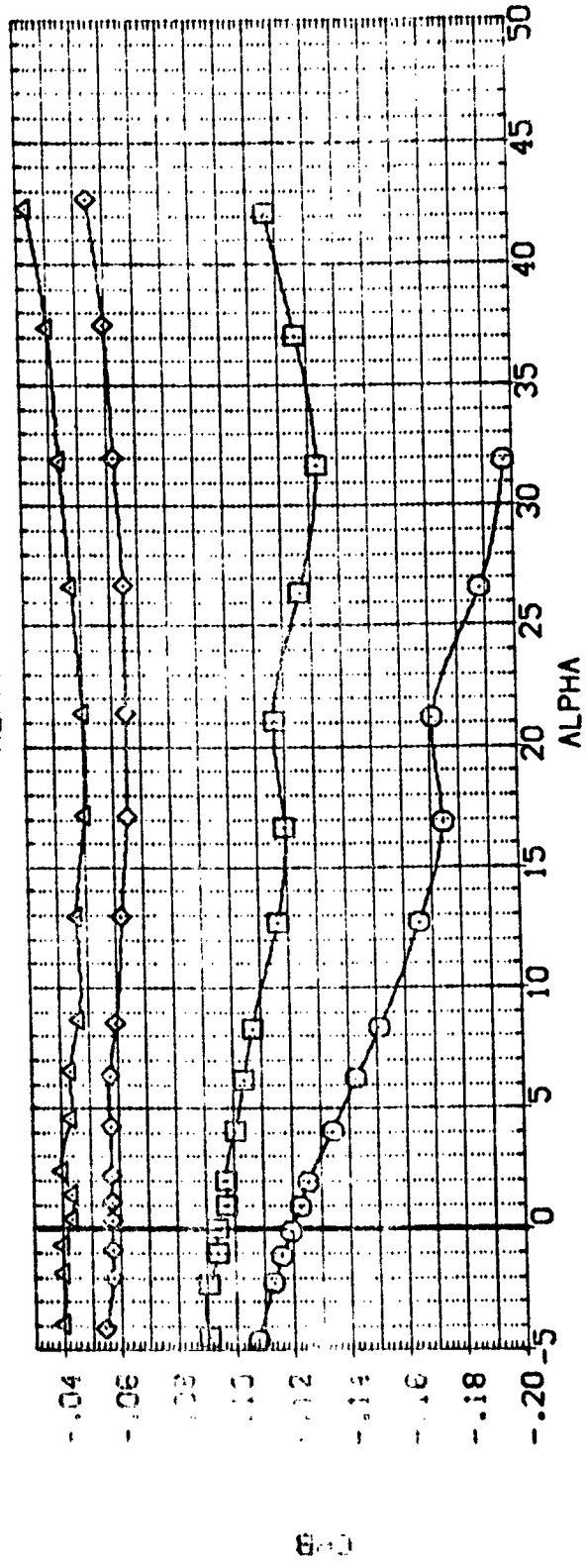
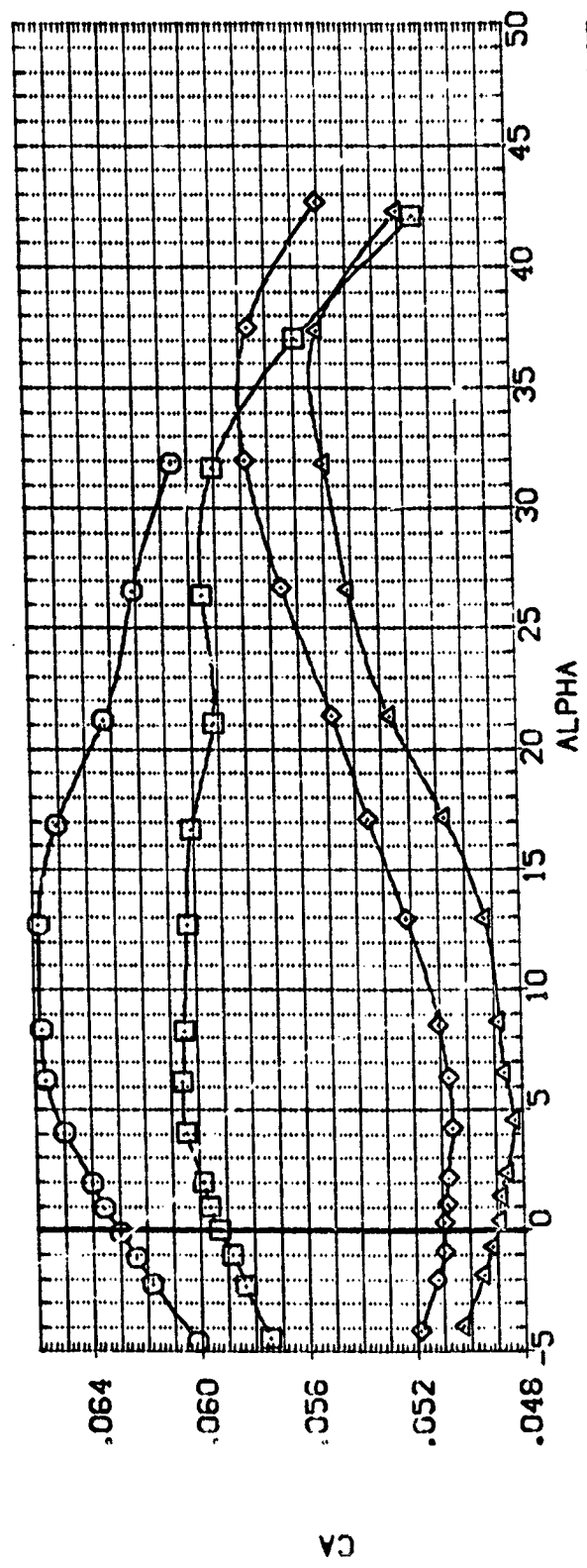
LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VF8) (BP80007)

REFERENCE INFORMATION  
 SREF 171.4720 SC. IN.  
 LREF 25.5100 INCHES  
 BREF 20.3597 INCHES  
 XMRP 16.8366 INCHES  
 YMRP .0000 INCHES  
 ZMRP .0000 INCHES  
 SCALE .0188

PARAMETRIC VALUES  
 BETA .000 WING 2.000  
 LAMDAF 70.000 ELEVTR .000  
 BOFLAP .000 RUDFLR .000

MACH  
 2.360  
 2.660  
 3.960  
 4.530

SYMBOL  
 ○  
 □  
 ◇  
 △



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=70 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP80007)

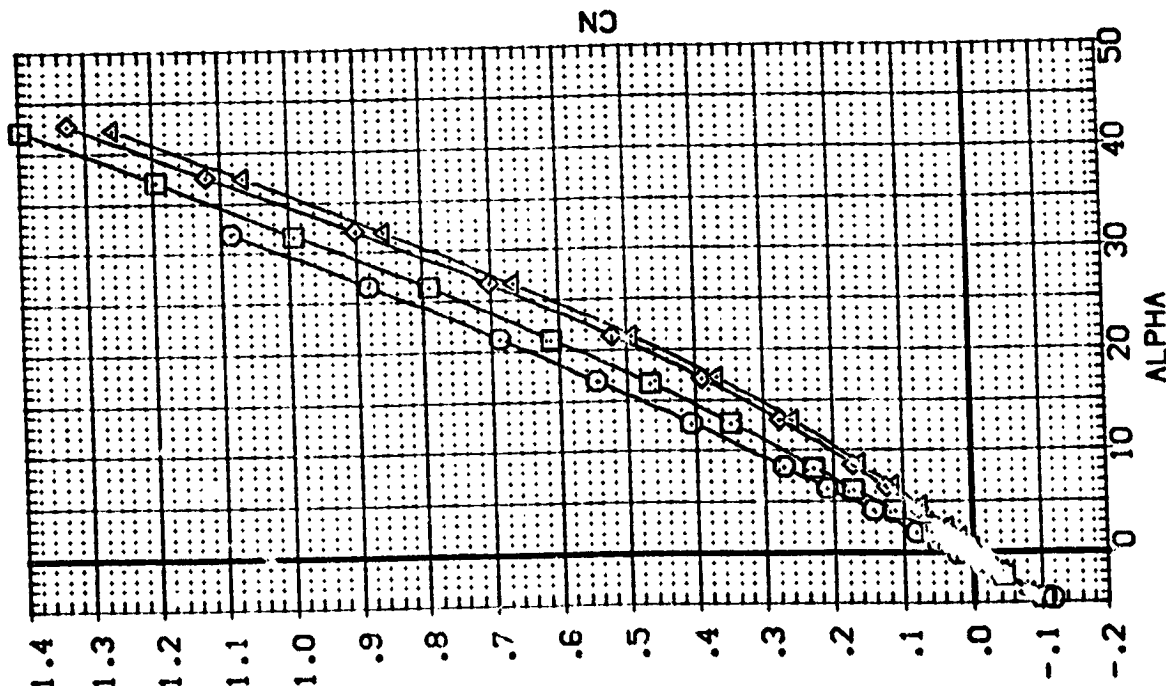
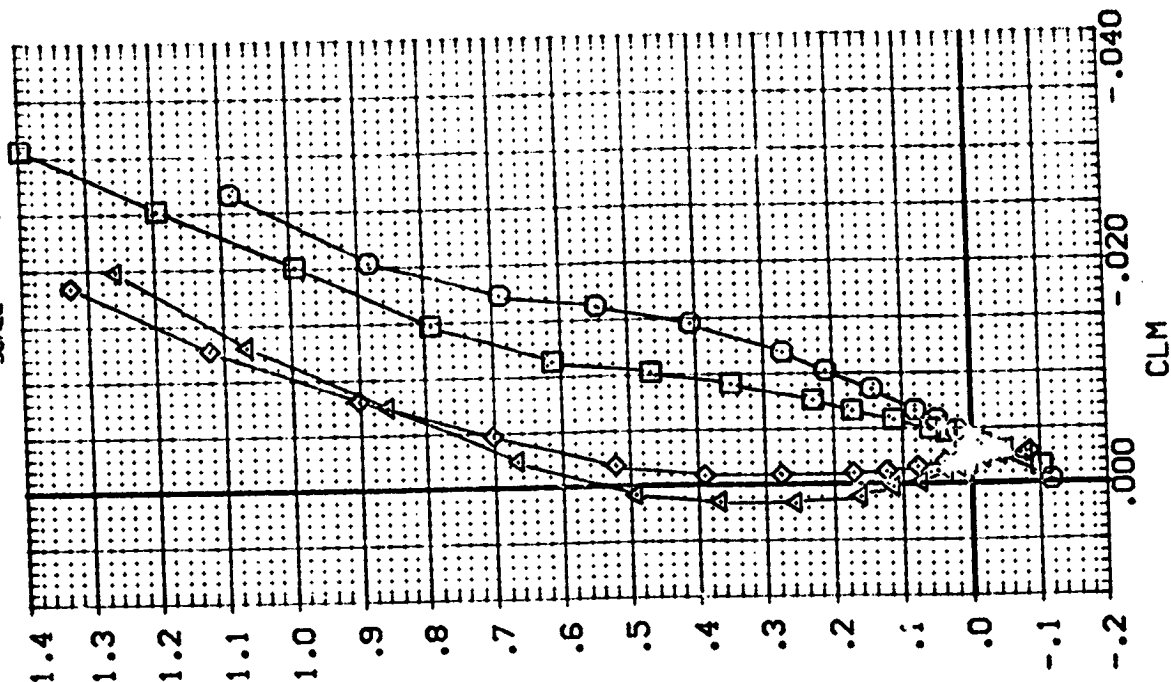
SYMBOL  
 ○  
 □  
 ◇  
 △

MACH  
 2.360  
 2.860  
 3.960  
 4.630

BETA  
 .000  
 70.000  
 .000  
 .000

PARAMETRIC VALUES  
 WINGNO 2.000  
 ELEVTR .000  
 RJDFLR .000

REFERENCE INFORMATION  
 SREF 171.4720  
 LREF 25.5100  
 BREF 20.3597  
 XMRP 16.8366  
 YMRP .0000  
 ZMRP .0000  
 SCALE .0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=70 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP80007)

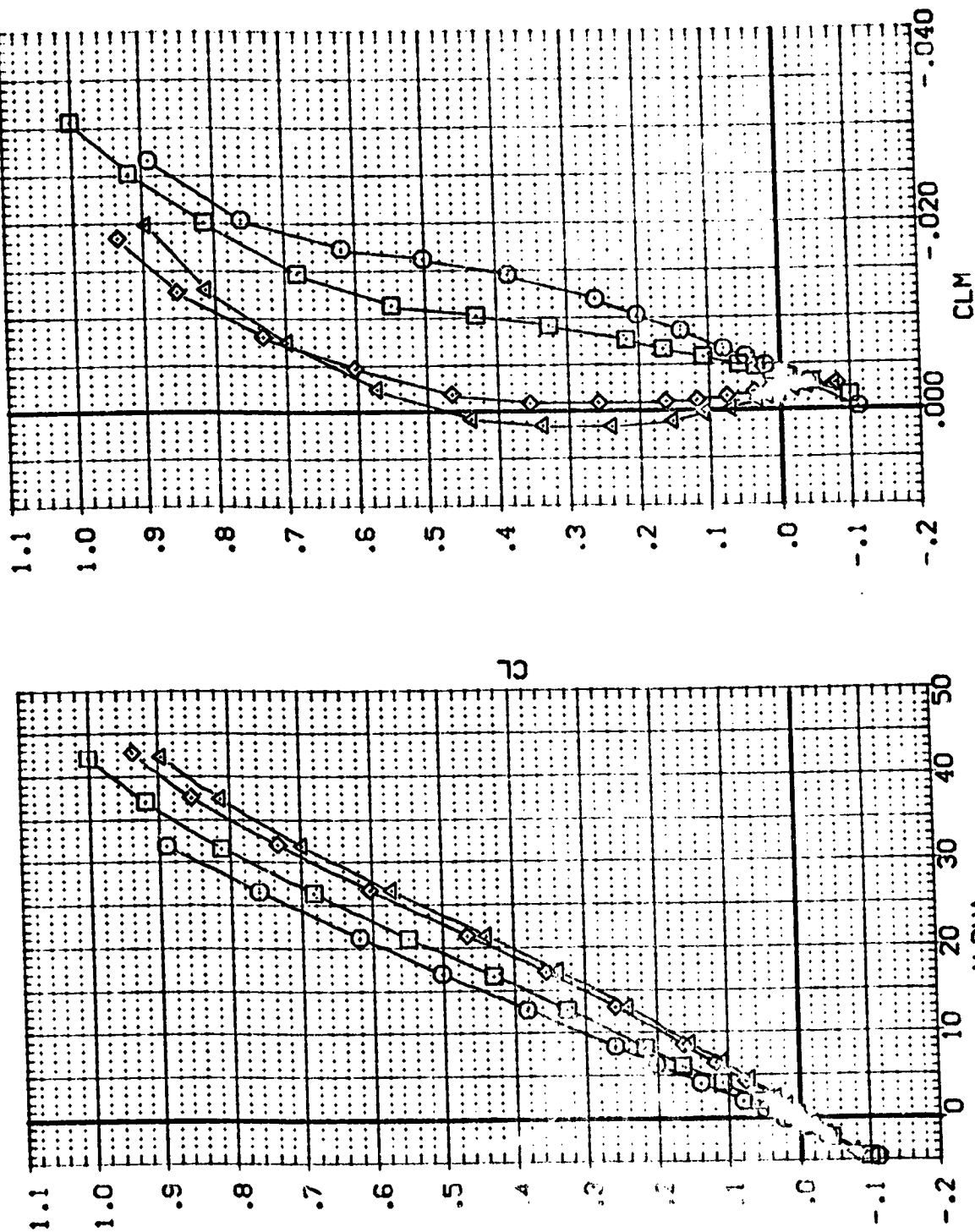
SYMBOL  
 ○ □ ◇ △

MACH  
 2.350  
 2.860  
 3.950  
 4.530

BETA  
 .000  
 70.000  
 .000  
 .000

PARAMETRIC VALUES  
 VINGNO 2.000  
 ELEVTR .000  
 RUOFLR .000

REFERENCE INFORMATION  
 SREF 171.4720 SQ.IN.  
 LREF 25.5100 INCHES  
 BREF 20.3597 INCHES  
 XMRP 16.8365 INCHES  
 YMRP .0000 INCHES  
 ZMRP .0000 INCHES  
 SCALE .0188

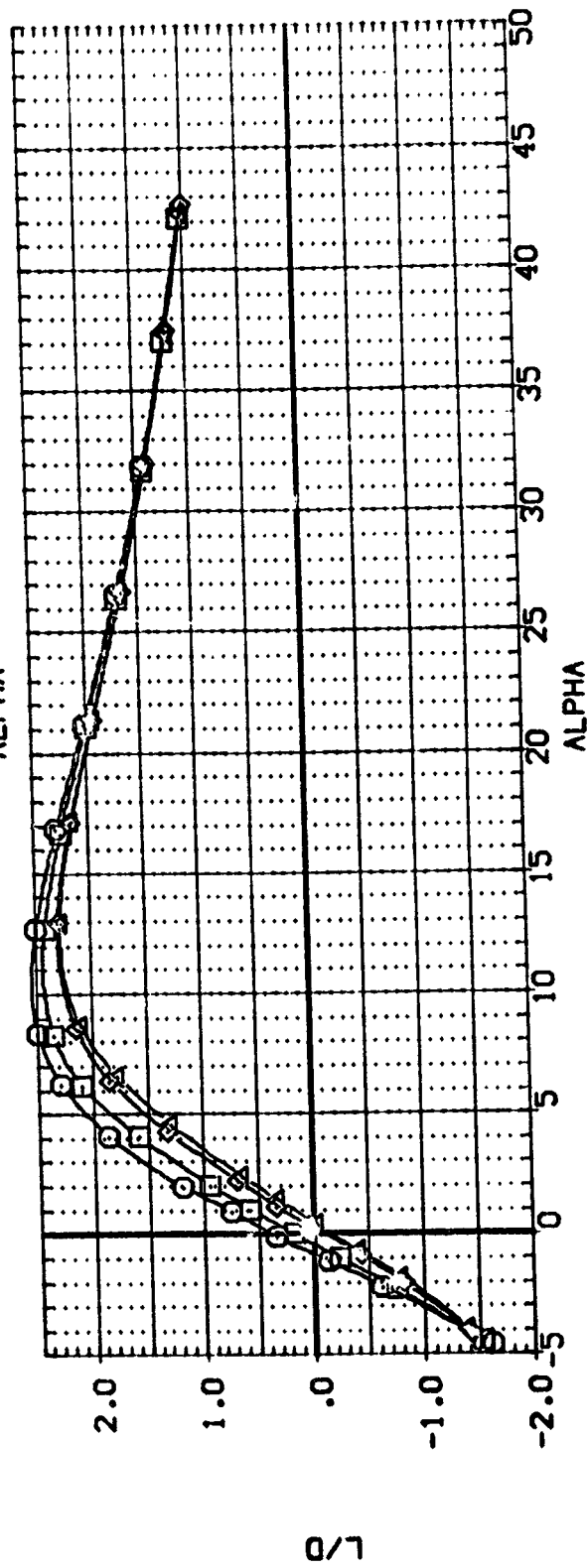
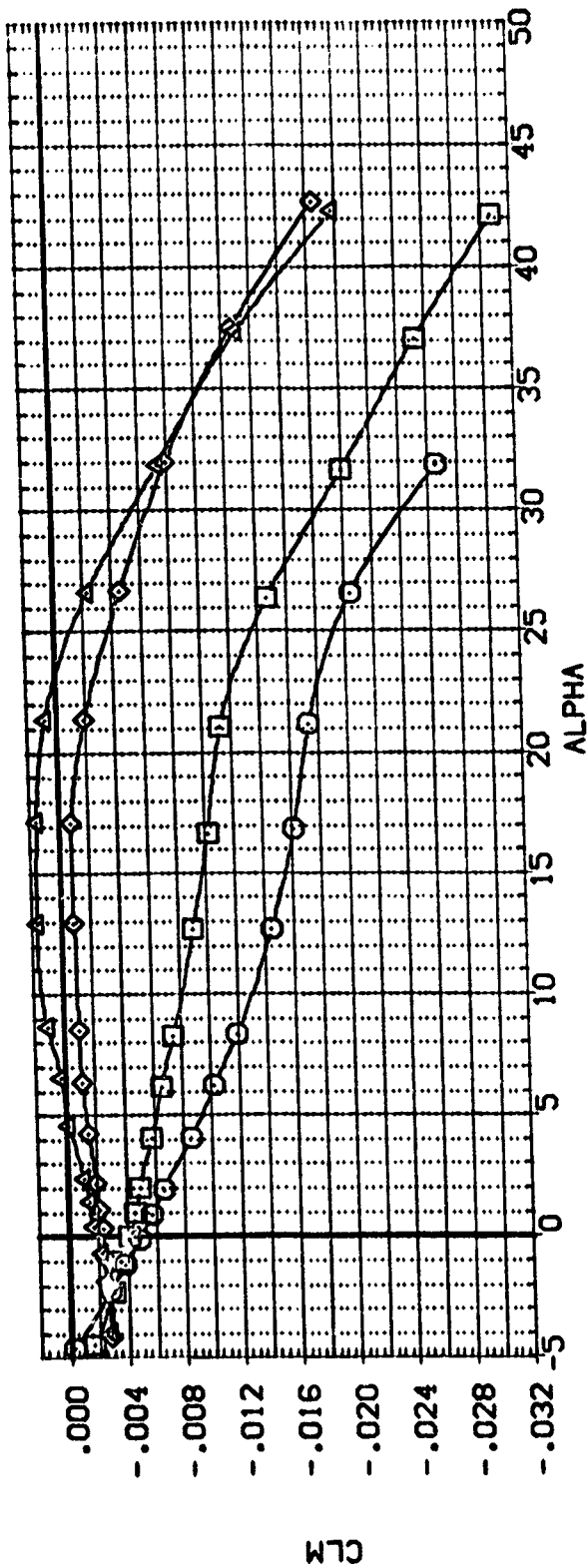


EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=70 DEG.)



# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP80007)

SYMBOL	MACH	PARAMETRIC VALUES				REFERENCE INFORMATION			
		BETA	WINGNO	ELEVTR	RUOFLR	SREF	LREF	BREF	XMRP
○	2.350	.000	2.000	.000	.000	171.4720	50.11	INCHES	INCHES
□	2.860	70.000	.000	.000	.000	25.5100	20.3597	INCHES	INCHES
◇	3.960	.000	.000	.000	.000	16.8366	.0000	INCHES	INCHES
△	4.630					.0000	.0000	INCHES	INCHES
						ZMRP	SCALE		
							.0188		



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=70 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP80007)

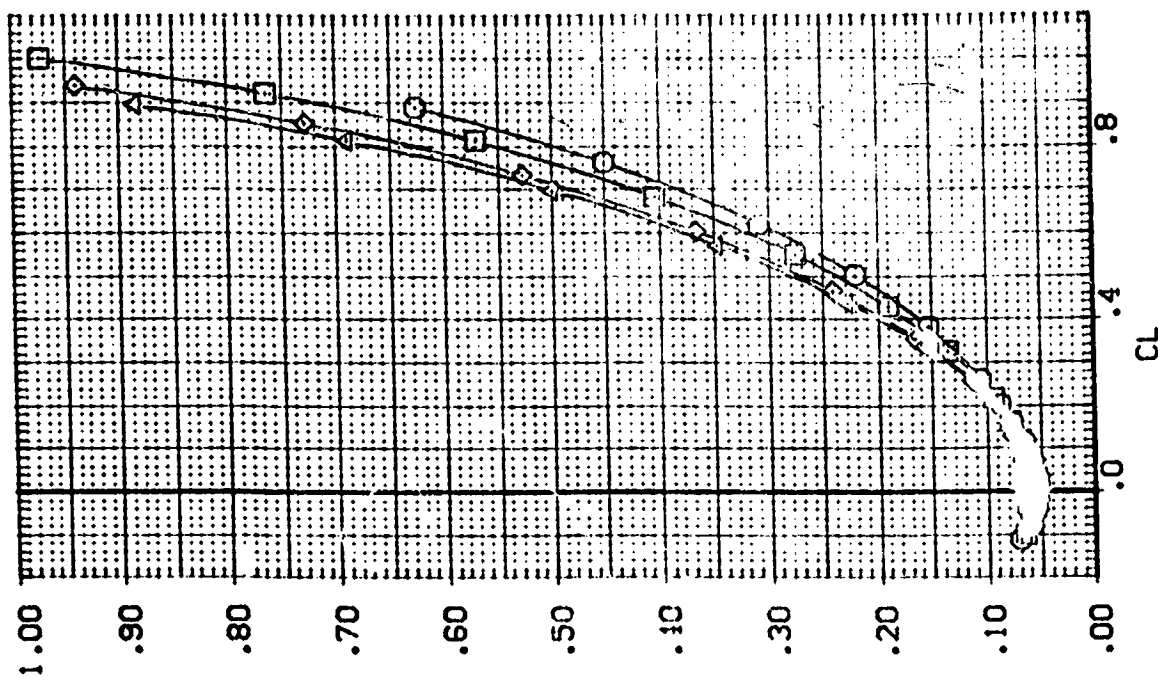
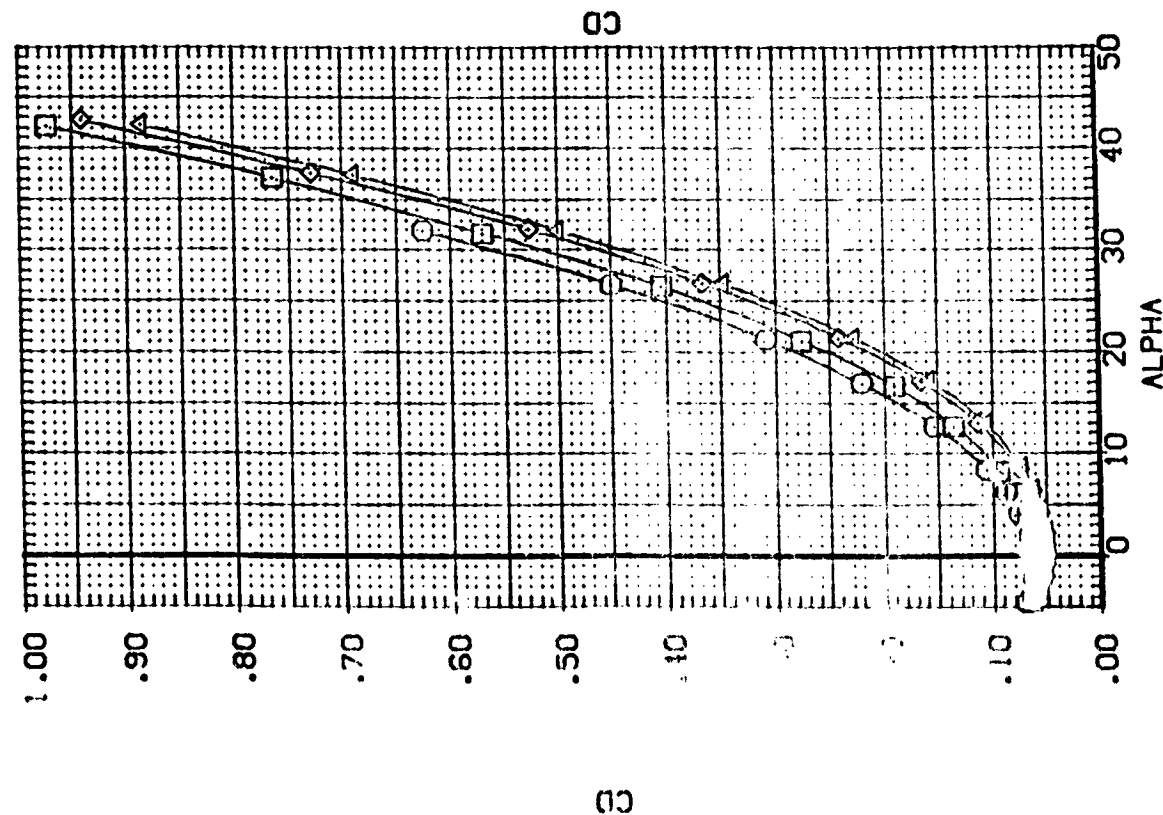
SYMBOL  
○ □ ◇ △

MACH  
2.360  
2.860  
3.960  
4.630

BETA  
70.000  
70.000  
70.000  
70.000

PARAMETRIC VALUES  
VINGNO 2.000  
ELEVTR .000  
RUDFLR .000

REFERENCE INFORMATION  
SREF 171.4720  
LREF 25.5100  
BREF 20.3597  
XMRP 15.8366  
YMRP .0000  
ZMRP .0000  
SCALE .0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=70 DEG.)

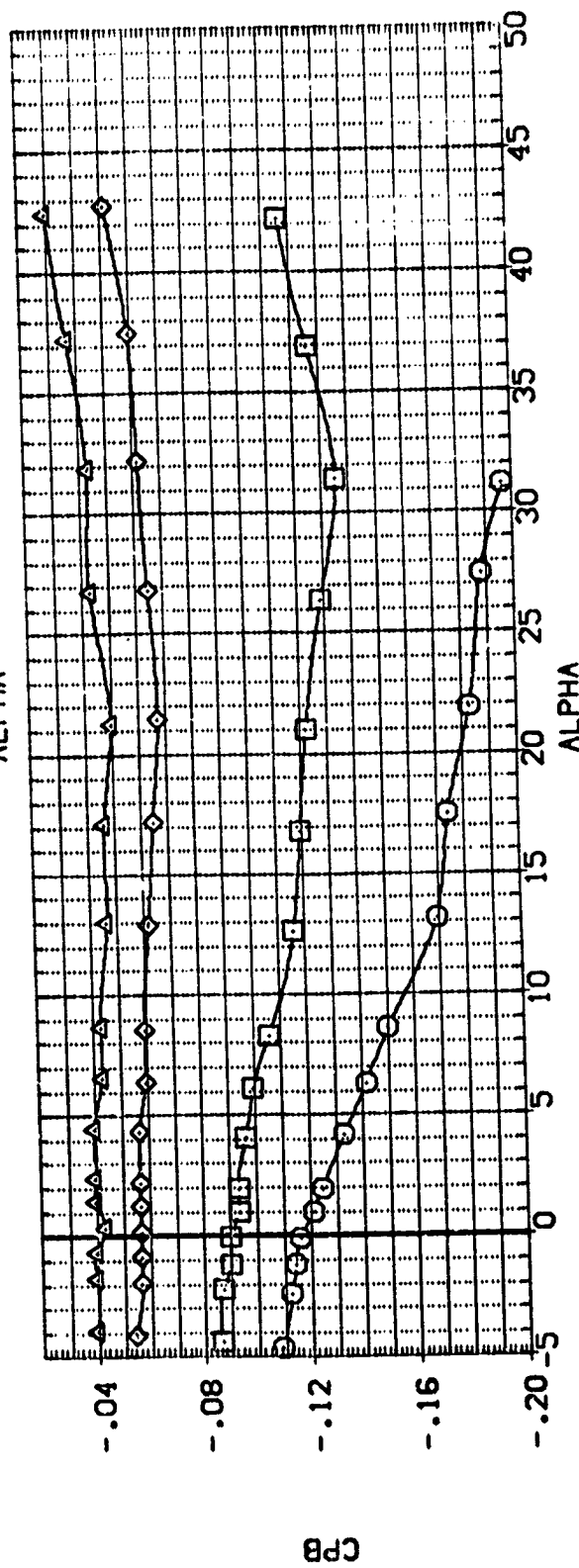
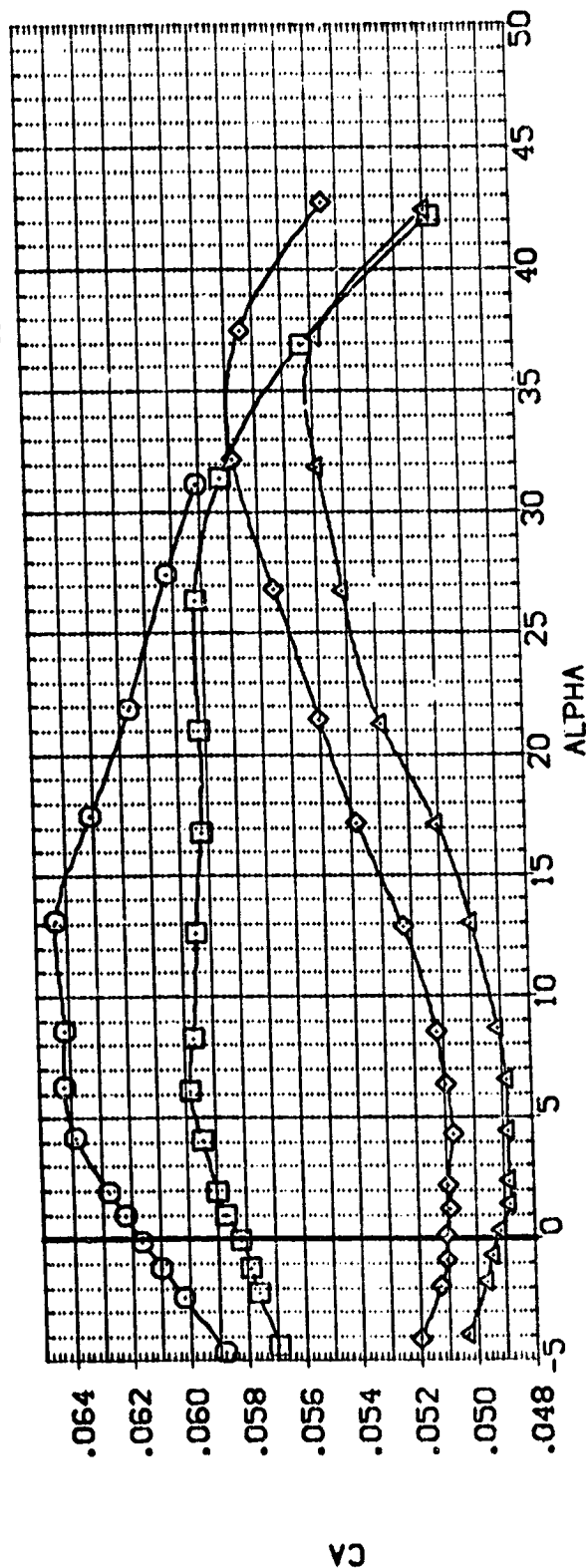
# LA-10 LARC UPWT 1015 LQ-100 ORB.(SHIPS) (BW2VFB) (BP8008)

SYMBOL  
 ○ □ ◇ △

MACH  
 2.360  
 2.850  
 3.960  
 4.630

PARAMETRIC VALUES  
 BETA .000  
 LAMDAF 75.000  
 BOFLAP .000  
 VINGNO 2.000  
 ELEVTR .000  
 RUOFLR .000

REFERENCE INFORMATION  
 SREF 171.4720  
 LREF 25.5100  
 BREF 20.3597  
 XMRP 16.8366  
 YMRP .0000  
 ZMRP .0000  
 SCALE .0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=75 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB)(BP8008)

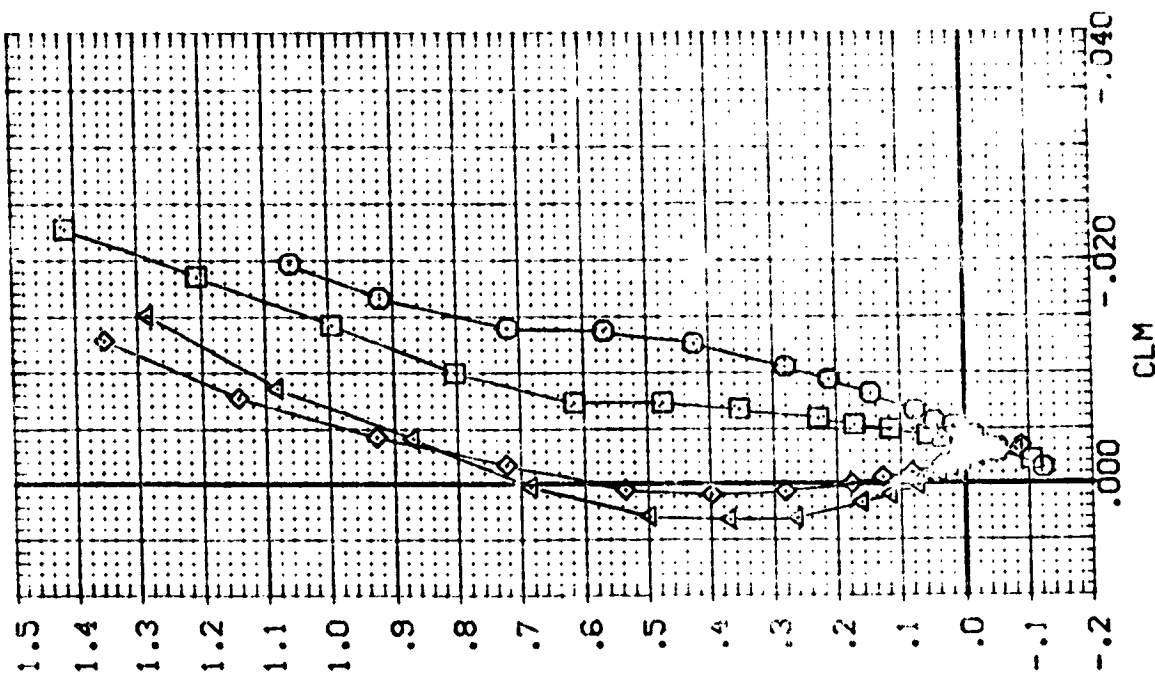
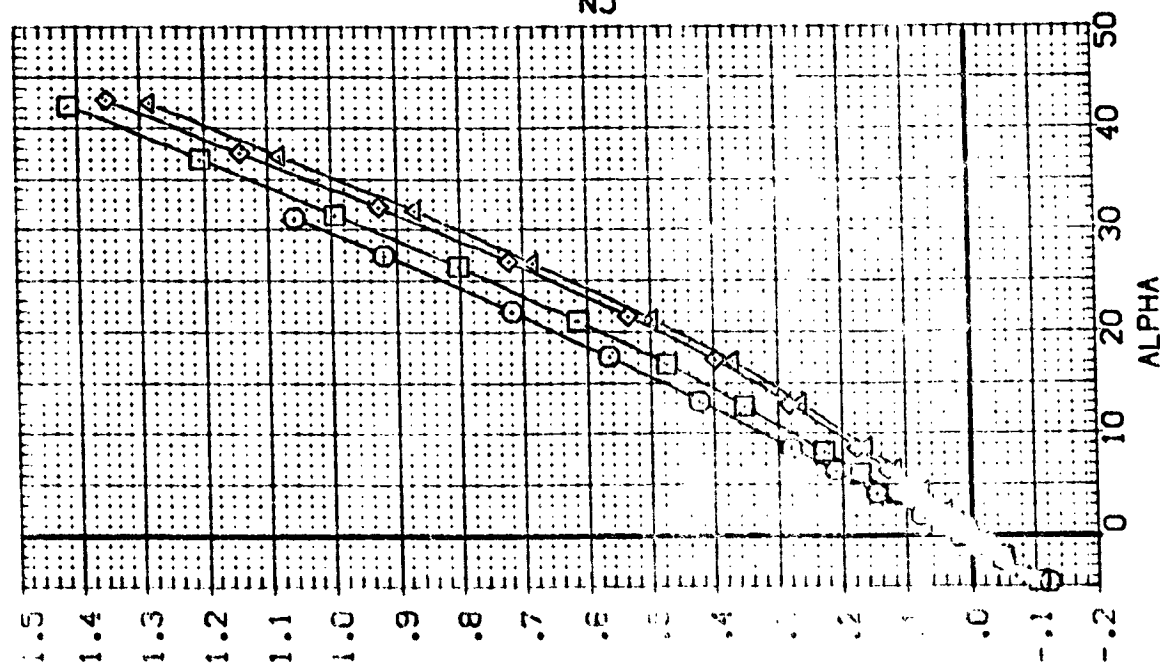
SYMBOL  
○ □ ◇ △

MACH  
2.350  
2.850  
3.950  
4.630

BETA  
LMDAF  
BOFLAP

PARAMETRIC VALUES  
.000 VINGNO 2.000  
75.000 ELEVTR .000  
.000 RUOFLR .000

REFERENCE INFORMATION  
SREF 171.4720 SQ.IN.  
LREF 25.5100 INCHES  
BREF 20.3597 INCHES  
XPRP 16.8366 INCHES  
YPRP .0000 INCHES  
ZPRP .0000 INCHES  
SCALE .0189



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=75 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP80008)

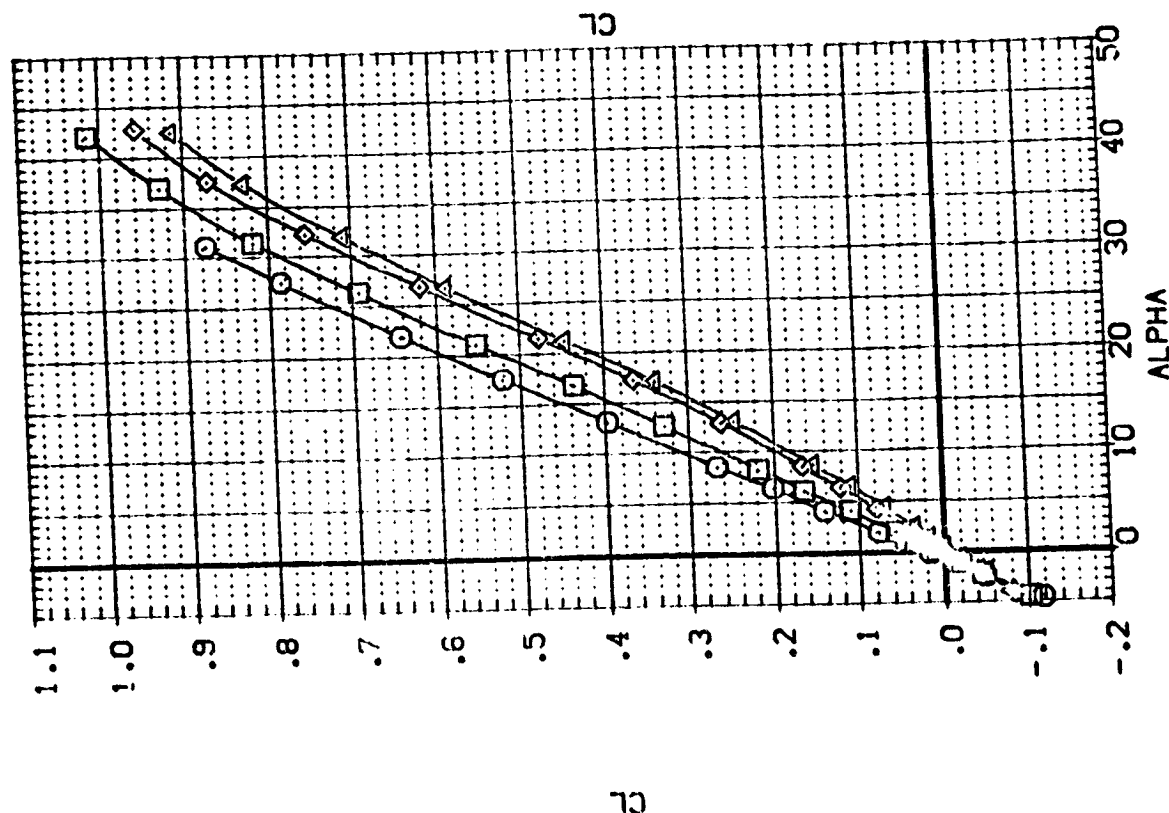
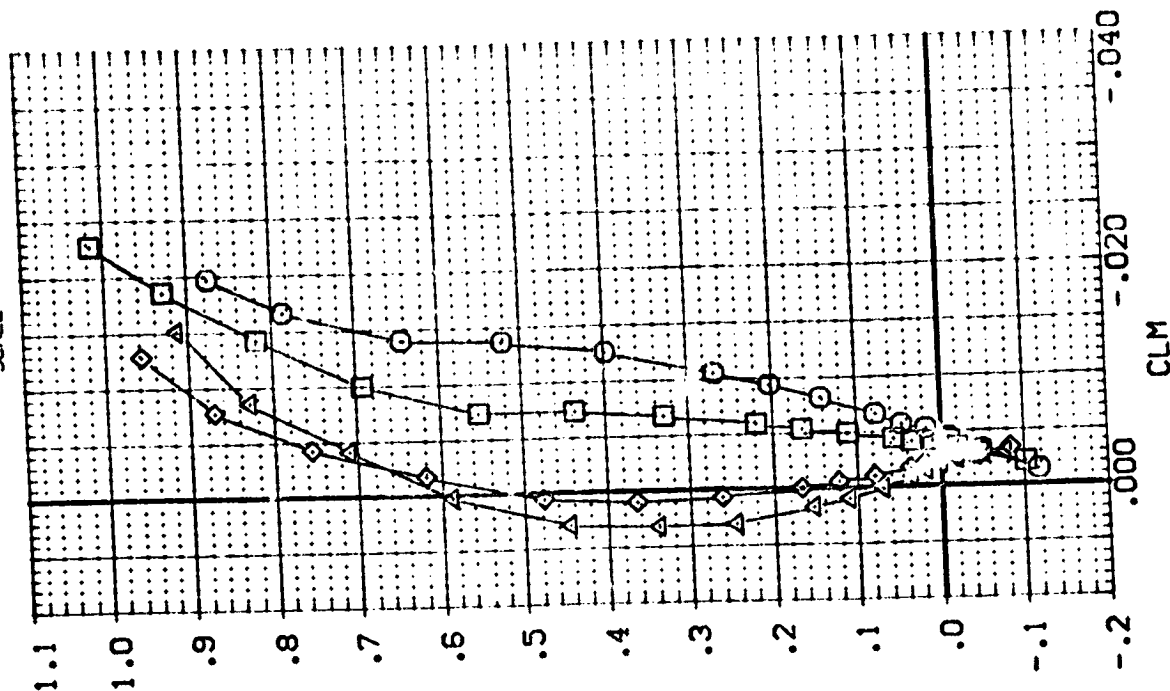
SYMBOL  
 ○  
 □  
 ◇  
 △

MACH  
 2.360  
 2.860  
 3.960  
 4.630

BETA  
 LAMDAF  
 BOFLAP

PARAMETRIC VALUES  
 .000 WINGNO 2.000  
 75.000 ELEVTR .000  
 .000 RUOFLR .000

REFERENCE INFORMATION  
 SREF 171.4720  
 LREF 25.5100  
 BREF 20.3597  
 XMRP 16.8366  
 YMRP .0000  
 ZMRP .0000  
 SCALE .0169



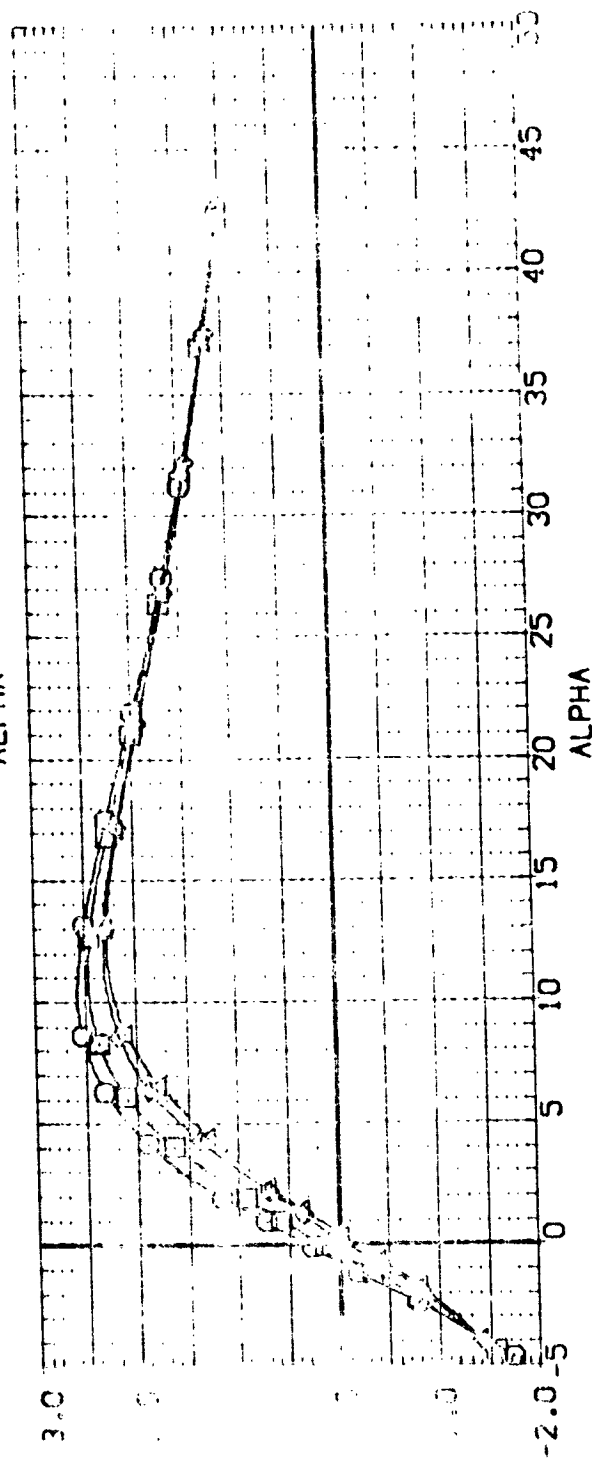
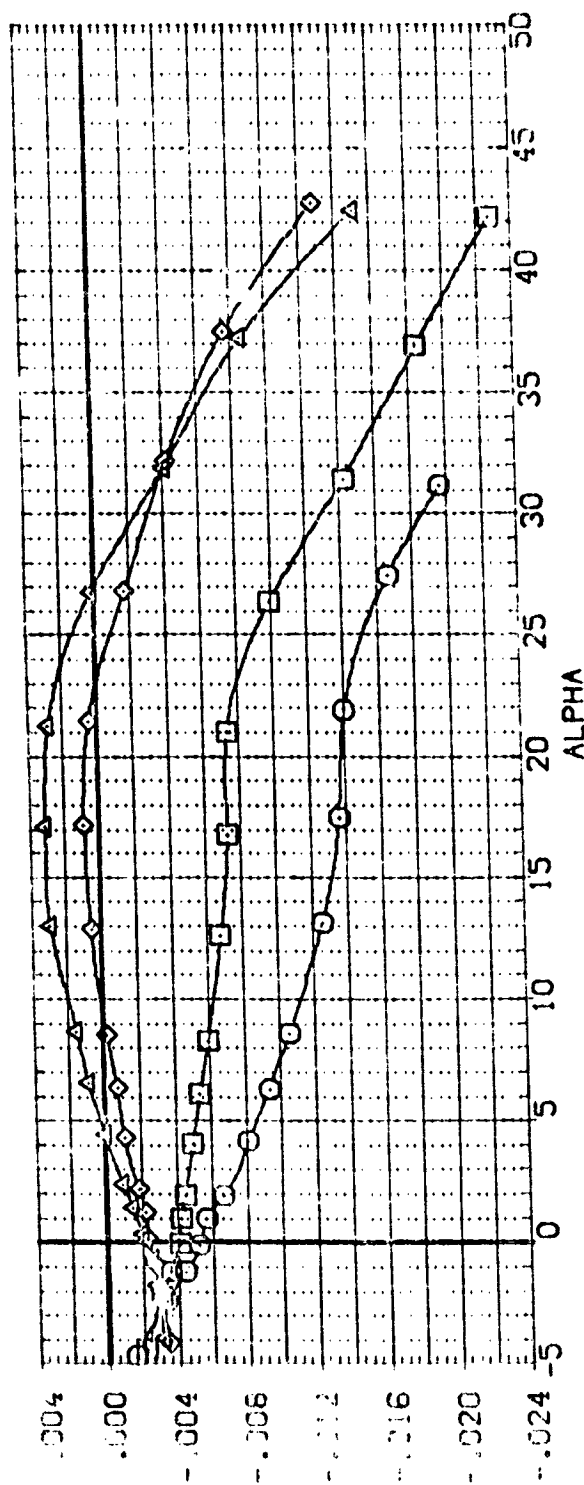
EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=75 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP80008)

SYMBOL MACH  
 O 2.35C  
 □ 2.85C  
 ◇ 3.95C  
 △ 4.63C

PARAMETRIC VALUES  
 BETA .000 VINGNC 2.000  
 LANDAF 75.000 ELEVTR .000  
 BOFLAP .000 RUJFLR .000

REFERENCE INFORMATION  
 SREF 171.4720 SQ. IN.  
 LREF 25.5100 INCHES  
 BREF 23.3597 INCHES  
 XMPD 18.6363 INCHES  
 YMPD .0000 INCHES  
 ZMPD .0000 INCHES  
 SCALE 1.88



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=75 DEG.)

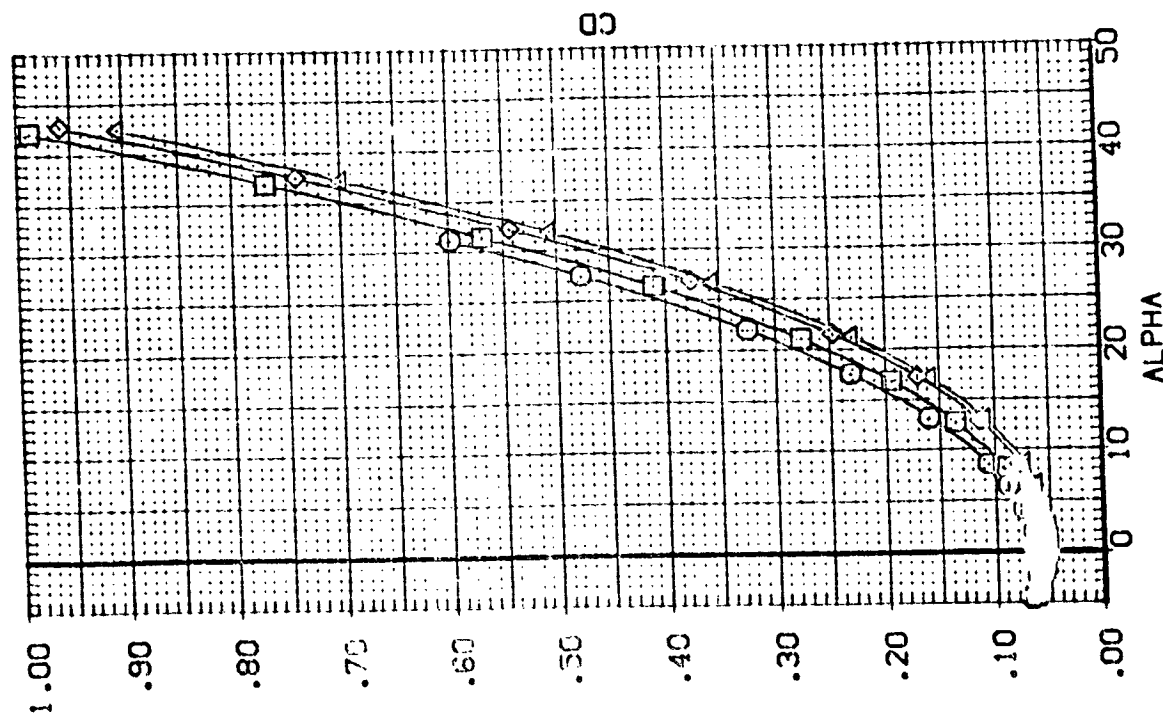
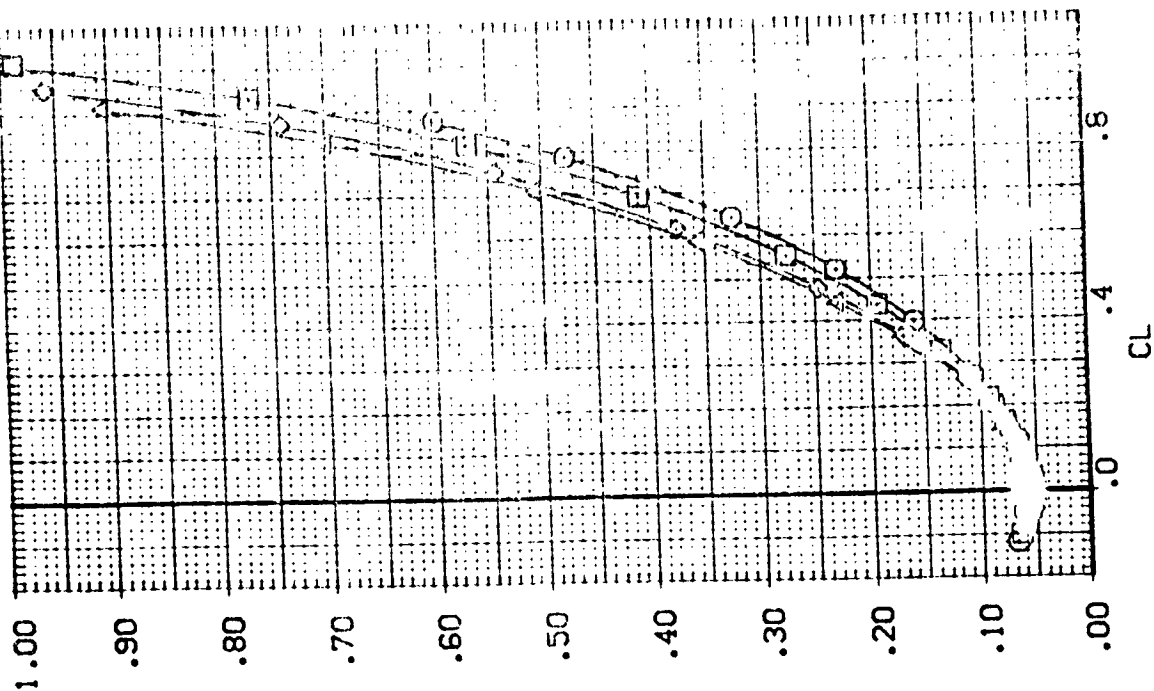
# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB)(BP80008)

SYMBOL  
O  
□  
△

MACH  
2.350  
2.860  
3.950  
4.630

PARAMETRIC VALUES  
BETA .000  
LAMBDAF 75.000  
BOFLAP .000  
WINGNO 2.000  
ELEVTR .000  
RJOFLL .000

REFERENCE INFORMATION  
SREF 171.4720  
LREF 261.5100  
BREF 70.7601  
XMRP 16.8366  
VMRP .0000  
ZMRP .0000  
SCALE .0168



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=75 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB)(BP8010)

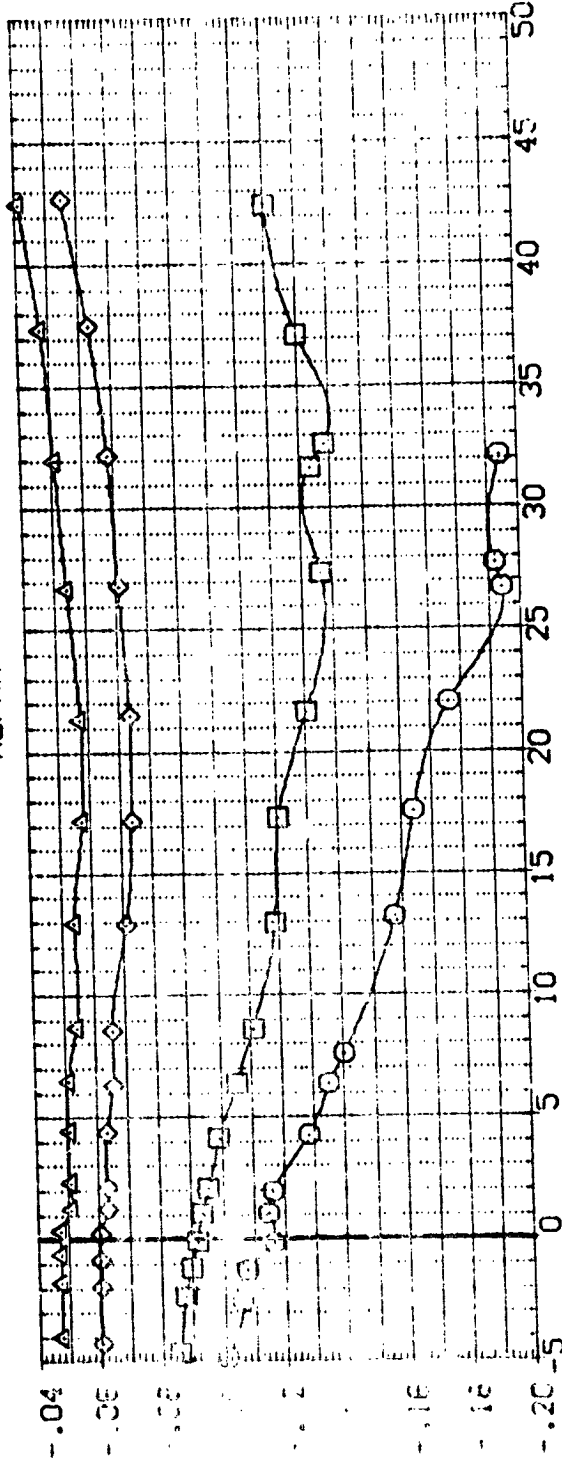
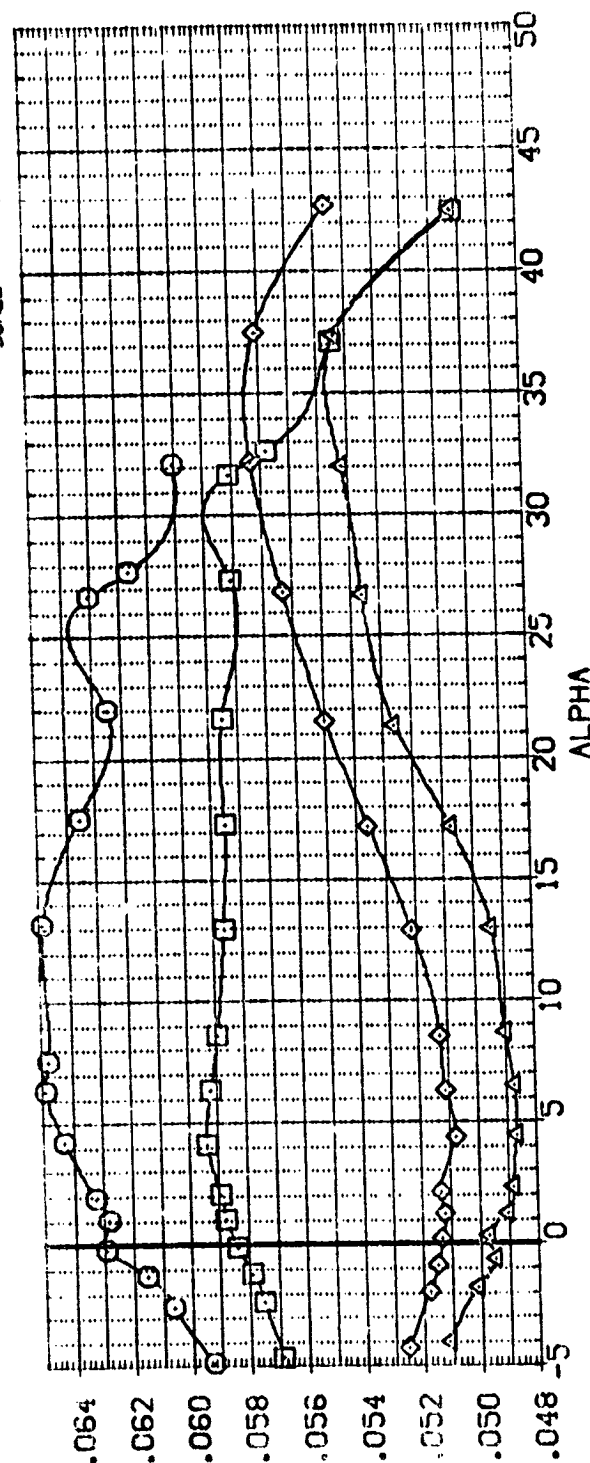
SYMBOL  
 ○ □ ◇ △

MACH  
 2.360  
 2.950  
 3.530  
 4.630

BETA  
 78.000  
 78.000  
 78.000  
 78.000

PARAMETRIC VALUES  
 WINGNO 2.000  
 ELEVTR .000  
 RJOFLR .000

REFERENCE INFORMATION  
 SREF 171.4720  
 LBREF 25.5100  
 BRREF 20.3597  
 YMRP 16.8366  
 YMRP .0000  
 ZMRP .0000  
 SCALE 0.58



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=78 DEG.)



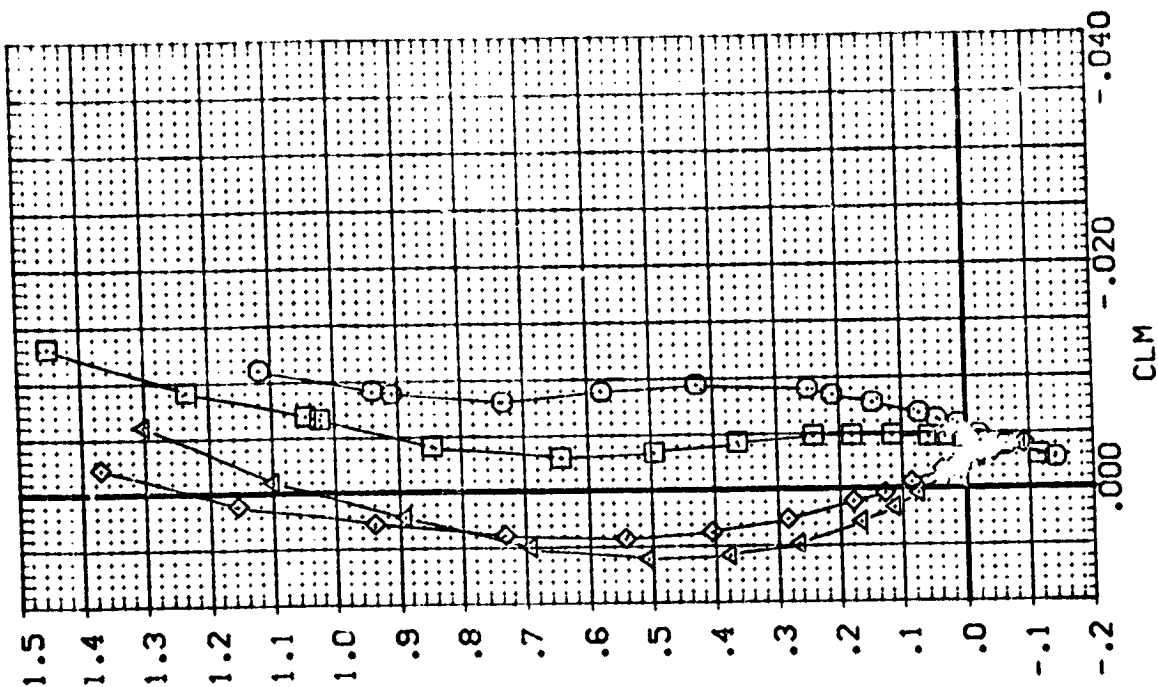
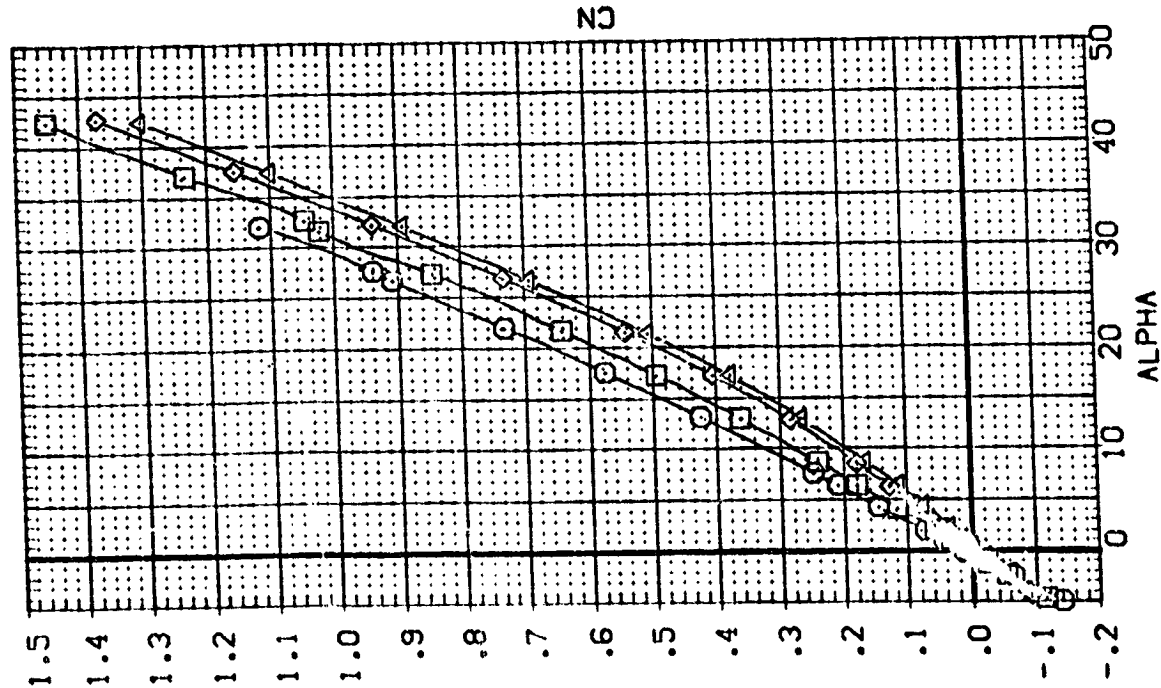
5010

WACH  
2.350  
2.850  
3.950  
4.630

PARAMETRIC VALUES	
.000	WINGS
70.000	ELEVTR
.000	RUDELR
2.000	
.000	
.000	

	PARAMETRIC VALUES
BETA	.000
WASD	.000
ELEVTR	.000
BOFLAP	.000

REFERENCE INFORMATION	
SREF	171.4720
LREF	25.5100
BREF	20.3597
XPRP	16.8366
YMRP	.0000
ZMRP	.0000
SCALE	.0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=78 DEG.)

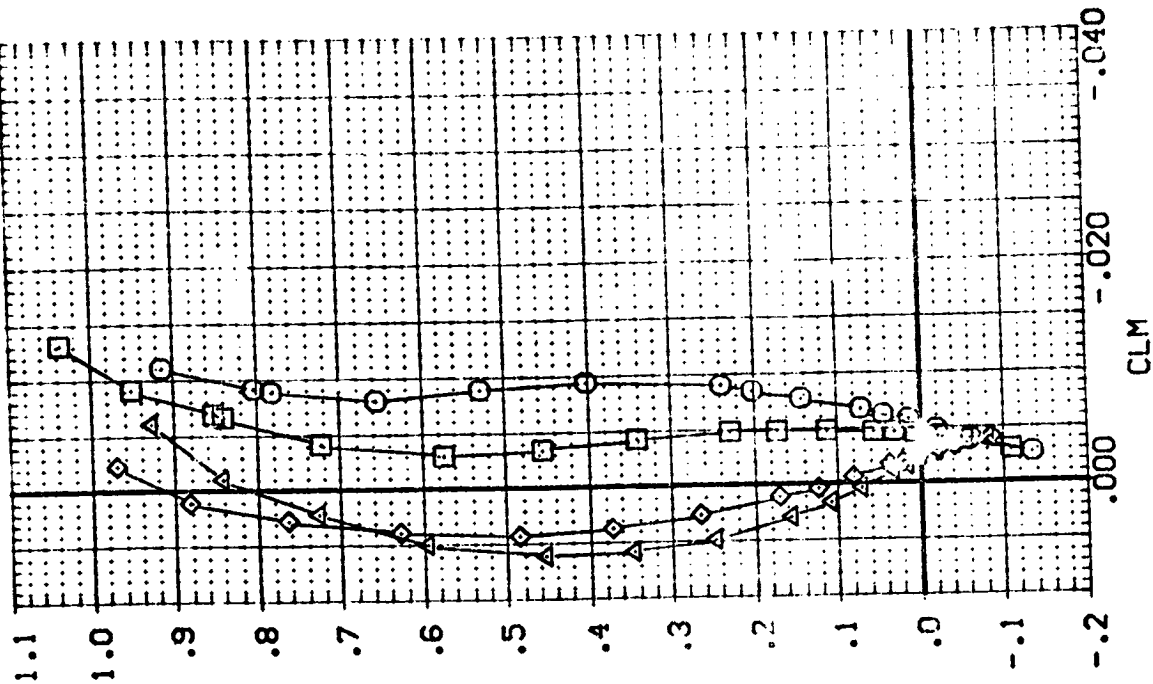
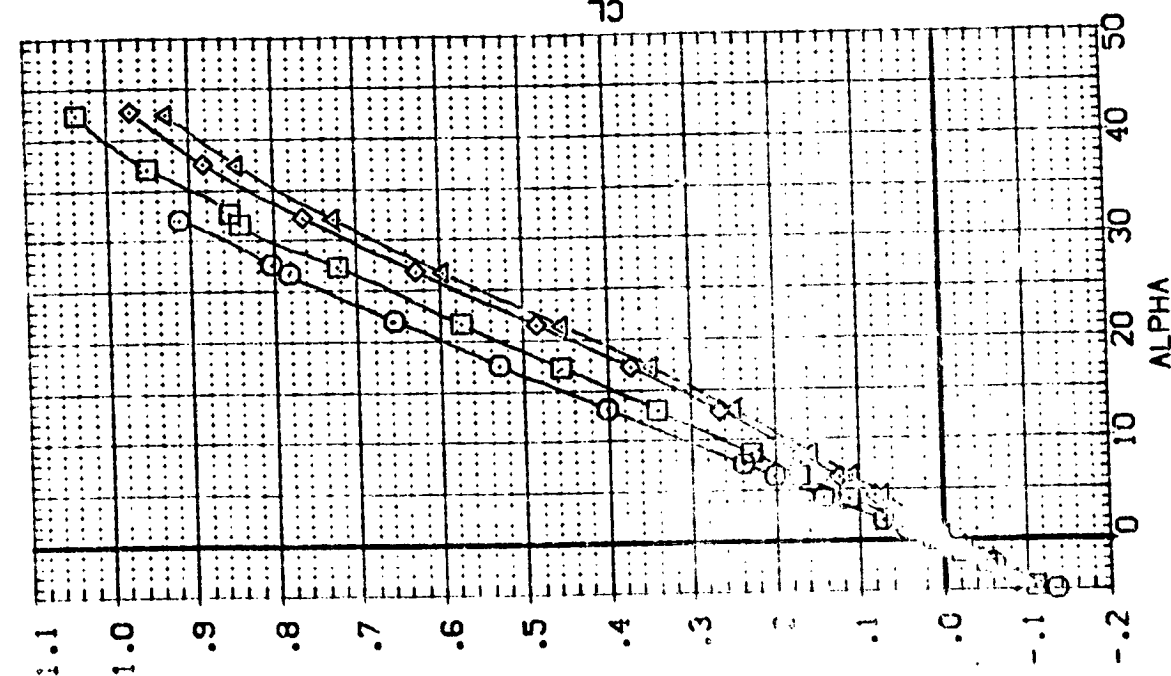
# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP8010)

SYMBOL  
 ○ □ ◇ △

MACH  
 2.360  
 2.860  
 3.960  
 4.630

PARAMETRIC VALUES  
 BETA .000 WINGNO 2.000  
 LAYCAF 78.000 ELEVTR .000  
 BOFLAP .000 RJOFLR .000

REFERENCE INFORMATION  
 SREF 171.4720 SQ. IN.  
 LREF 25.5100 INCHES  
 BREF 20.3597 INCHES  
 XMRP 16.8366 INCHES  
 YMRP .0000 INCHES  
 ZMRP .0000 INCHES  
 SCALE .188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=78 DEG.)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (BP8010)

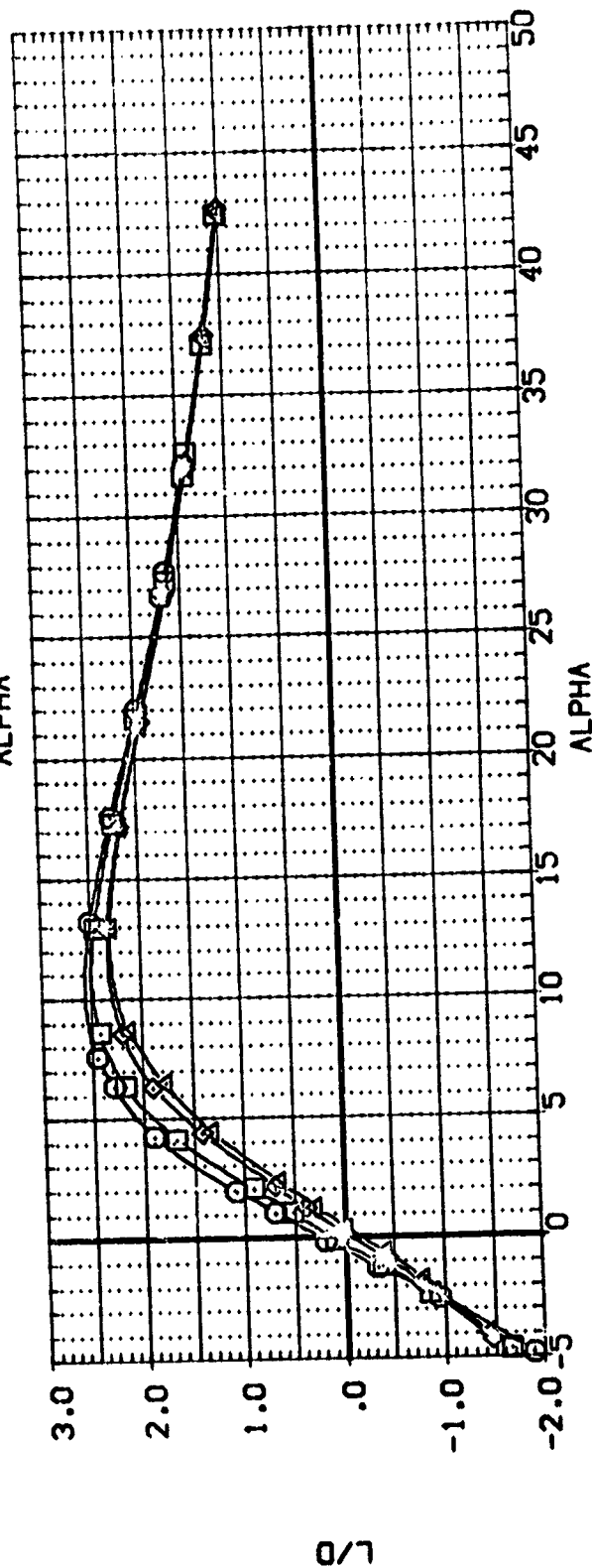
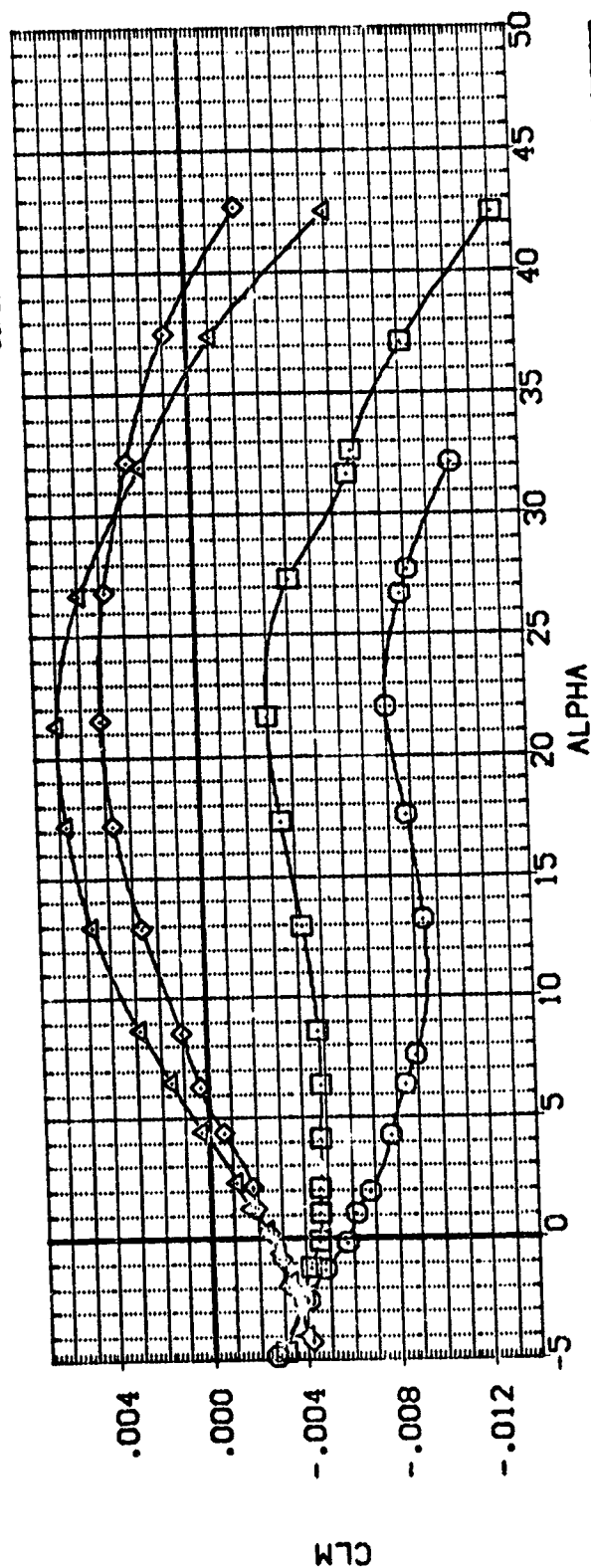
SYMBOL  
 ○  
 □  
 ◇  
 △

MACH  
 2.360  
 2.860  
 3.960  
 4.630

BETA  
 .000  
 78.000  
 .000

PARAMETRIC VALUES  
 VINGNO 2.000  
 ELEVTR .000  
 RJDFLR .000

REFERENCE INFORMATION  
 SREF 171.4720 SQ. IN.  
 LREF 25.5100 INCHES  
 BREF 20.3597 INCHES  
 XMRP 16.8366 INCHES  
 YMRP .0000 INCHES  
 ZMRP .0000 INCHES  
 SCALE .0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=78 DEG.)

# -A-10 LARC UPWT 1015 LG-100 ORB.(SHIPS) (BW2VFB)(BP8010)

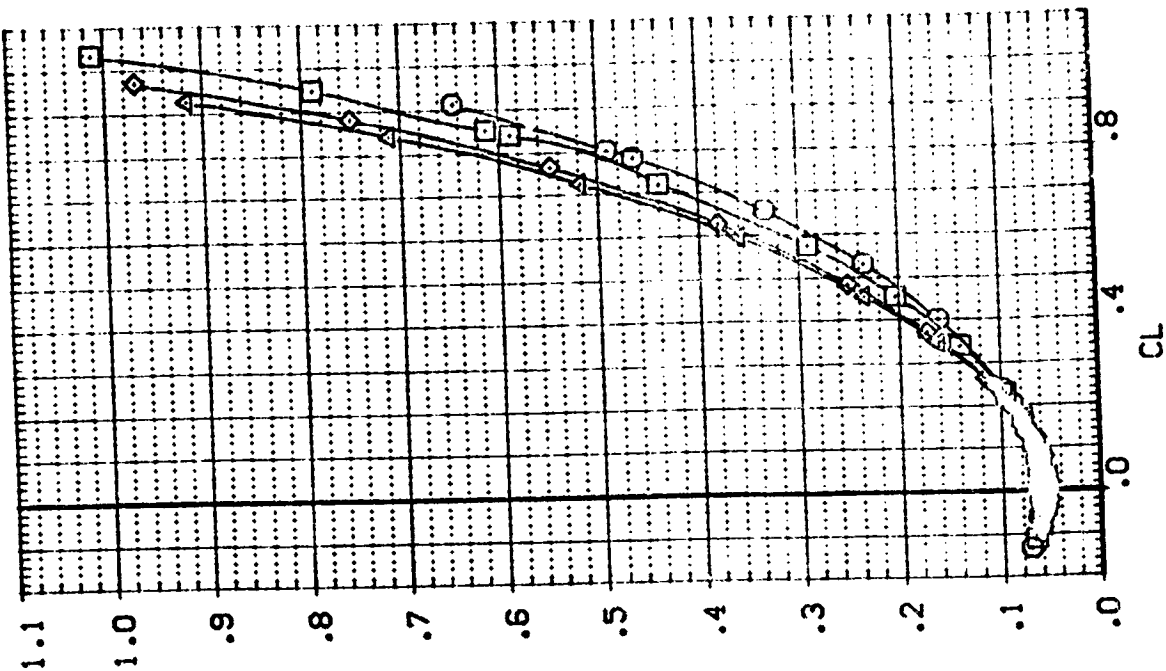
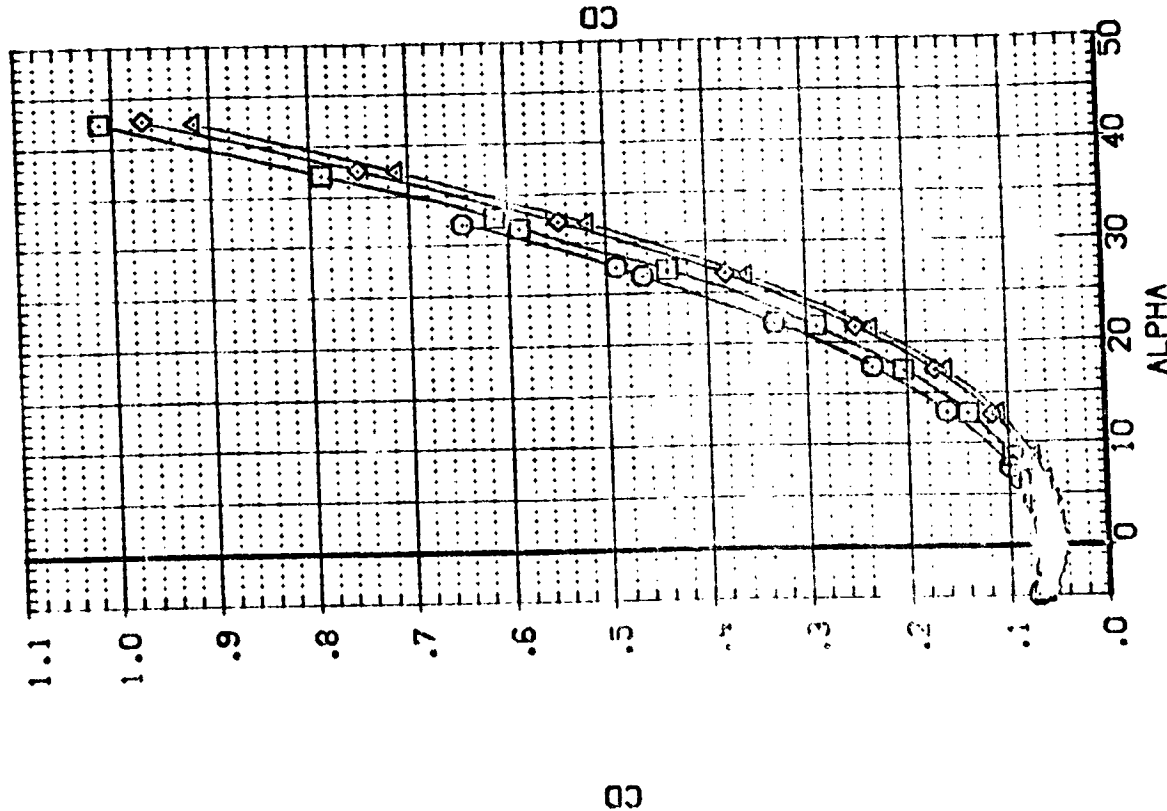
SYMBOL  
 ○ □ ◇ △

MACH  
 2.360  
 2.860  
 3.560  
 4.630

BETA  
 LAMDAF  
 BOFLAP

PARAMETRIC VALUES  
 .000 VINGO 2.000  
 78.000 ELEVTR .000  
 .000 RJDFLR .000

REFERENCE INFORMATION  
 SREF 171.4720 SQ.IN.  
 LREF 25.5100 INCHES  
 BREF 20.3697 INCHES  
 XMRP 16.8366 INCHES  
 YMRP .0000 INCHES  
 ZMRP .0000 INCHES  
 SCALE .0188



EFFECT OF MACH NO. ON W-33 WING (FILLET ANGLE=78 DEG.)

DATA SET SYMBOL  
 (BP8008)  
 (BP8012)  
 (BP8016)  
 (BP8014)

CONFIGURATION DESCRIPTION  
 LA-10 LARC UPVT 1015 LO-100 DB. (SHIPS)  
 LA-10 LARC UPVT 1015 LO-100 DB. (SHIPS)  
 LA-10 LARC UPVT 1015 LO-100 DB. (SHIPS)  
 LA-10 LARC UPVT 1015 LO-100 DB. (SHIPS)

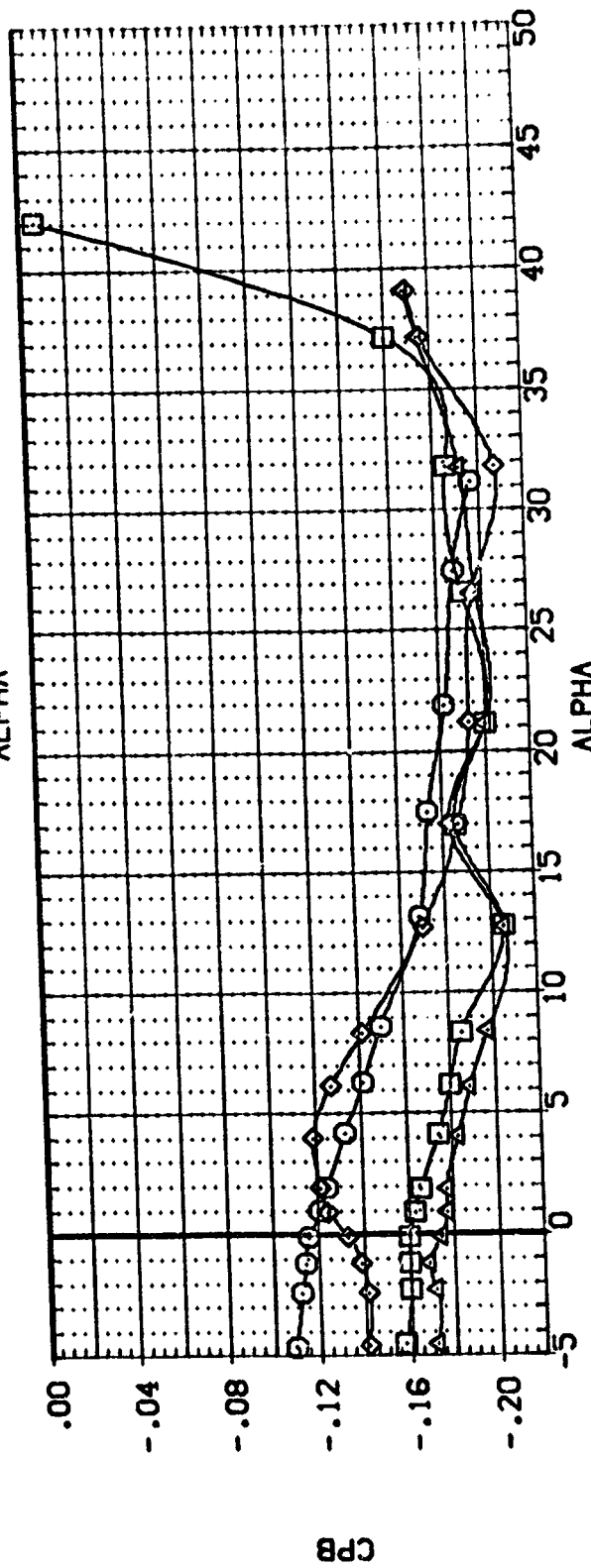
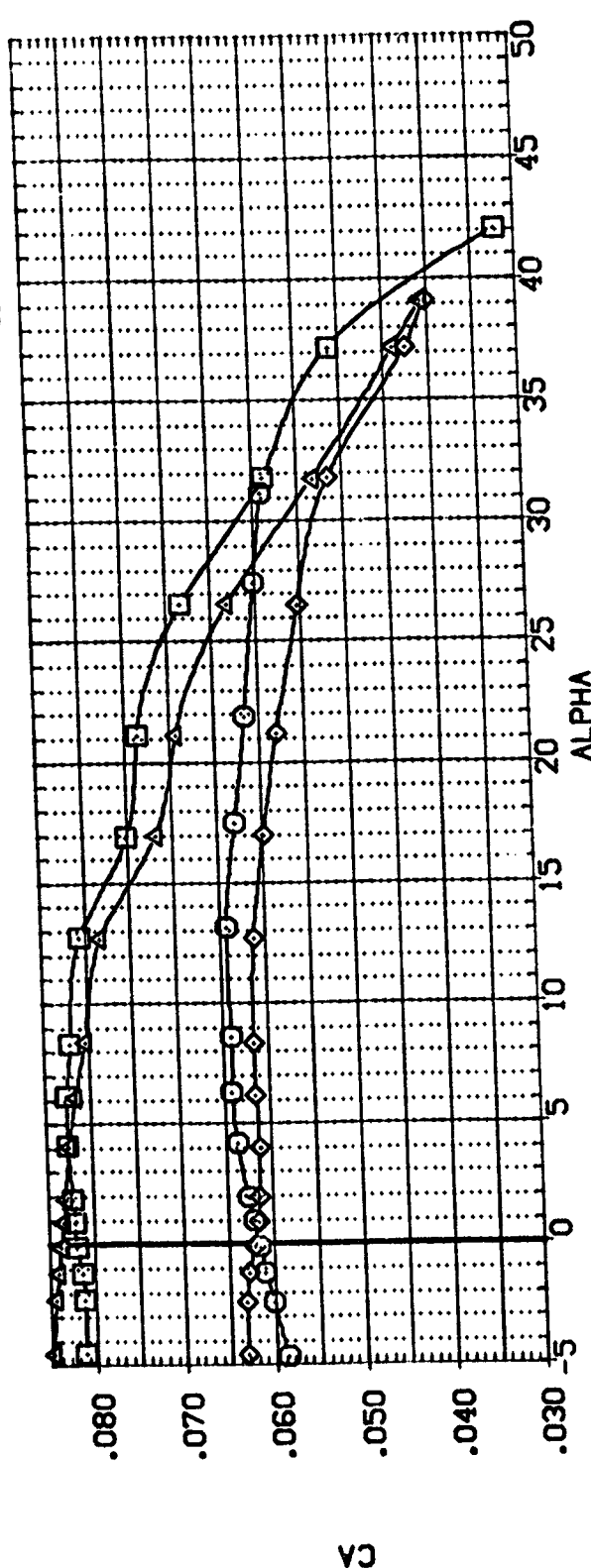
LANDAF 75.000  
 75.000  
 75.000  
 75.000

BETA .000  
 .000  
 .000  
 .000

RUDFLR .000  
 40.000  
 .000  
 40.000

ELEVTR .000  
 .000  
 -10.000  
 -10.000

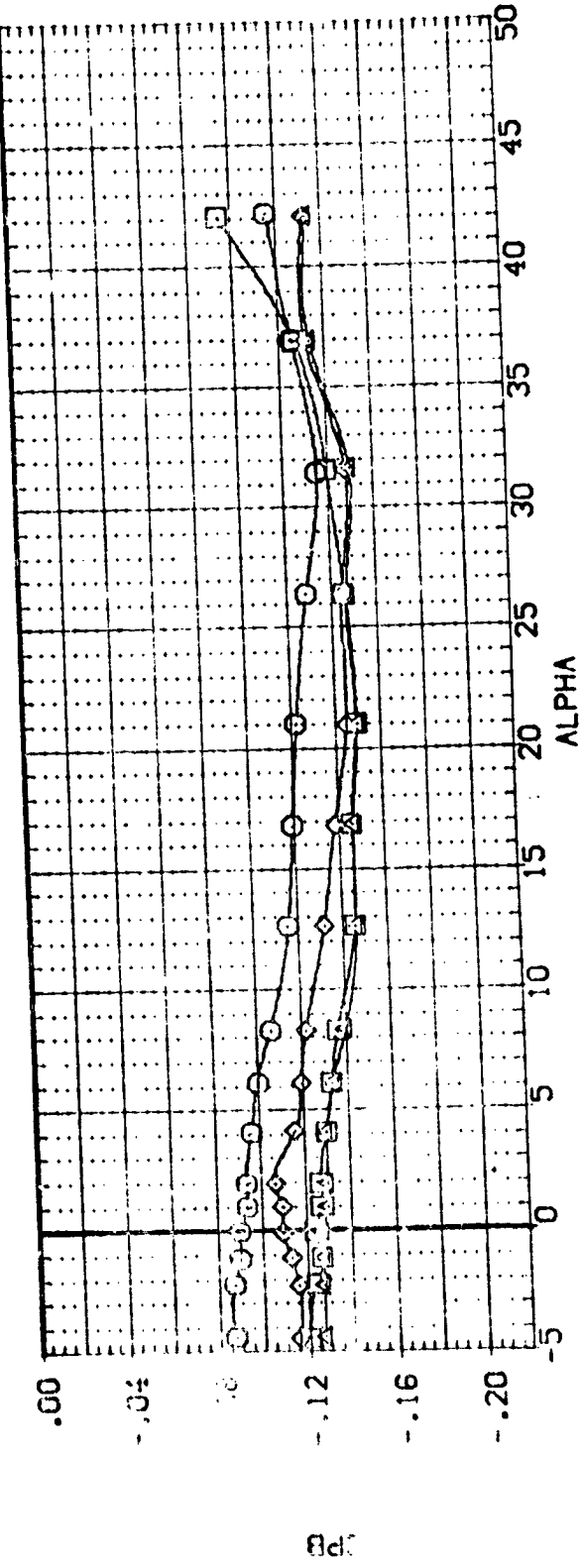
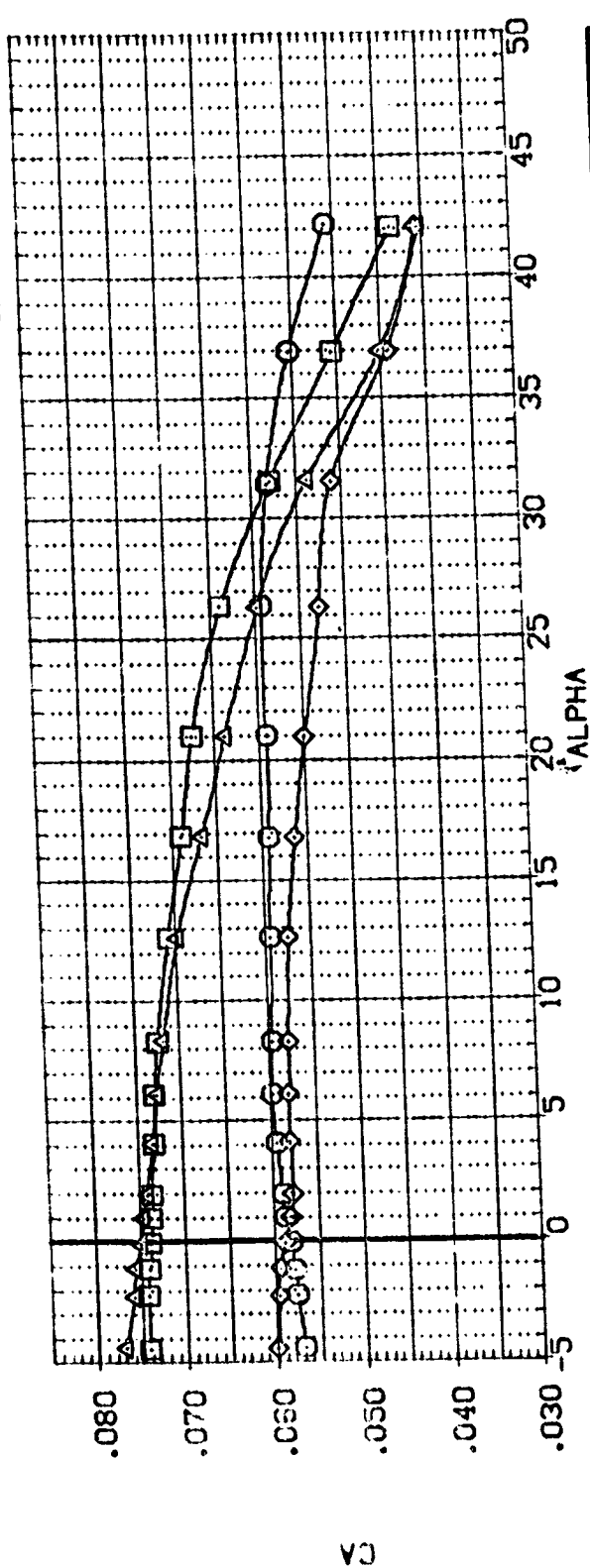
REFERENCE INFORMATION  
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 LREF 25.5100 INCHES  
 BREF 20.3597 INCHES  
 XMRP 16.8366 INCHES  
 YMRP .0000 INCHES  
 ZMRP .0000 INCHES  
 SCALE .0188



EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

(A)MACH = 2.36

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	BETA	RUDFLR	ELEVTR	REFERENCE INFORMATION
SP8008	LA-10 LARC UPVT 1015 LC-100 DB8 (SHIPS) (BW2VFB)	75.000	.000	.000	.000	SREF 171.4720 50. IN.
SP8012	LA-10 LARC UPVT 1015 LC-100 DB8 (SHIPS) (BW2VFB)	75.000	.000	40.000	.000	LREF 25.5100 INCHES
SP8016	LA-10 LARC UPVT 1015 LC-100 DB8 (SHIPS) (BW2VFB)	75.000	.000	.000	-10.000	BREF 20.3597 INCHES
SP8014	LA-10 LARC UPVT 1015 LC-100 DB8 (SHIPS) (BW2VFB)	75.000	.000	40.000	-10.000	YMPP 16.8356 INCHES
						ZMPP .0000 INCHES
						SCALE .0188



EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

(B)MACH = 2.86

REFERENCE INFORMATION  
 REF 171.4720 SQ. IN.  
 REF 25.5100 INCHES  
 REF 20.3597 INCHES  
 REF 16.8366 INCHES  
 YMRP .0000 INCHES  
 ZMRP .0000 INCHES  
 SCALE .0168

ELEVTR  
 .000  
 .000  
 -10.000  
 -10.000

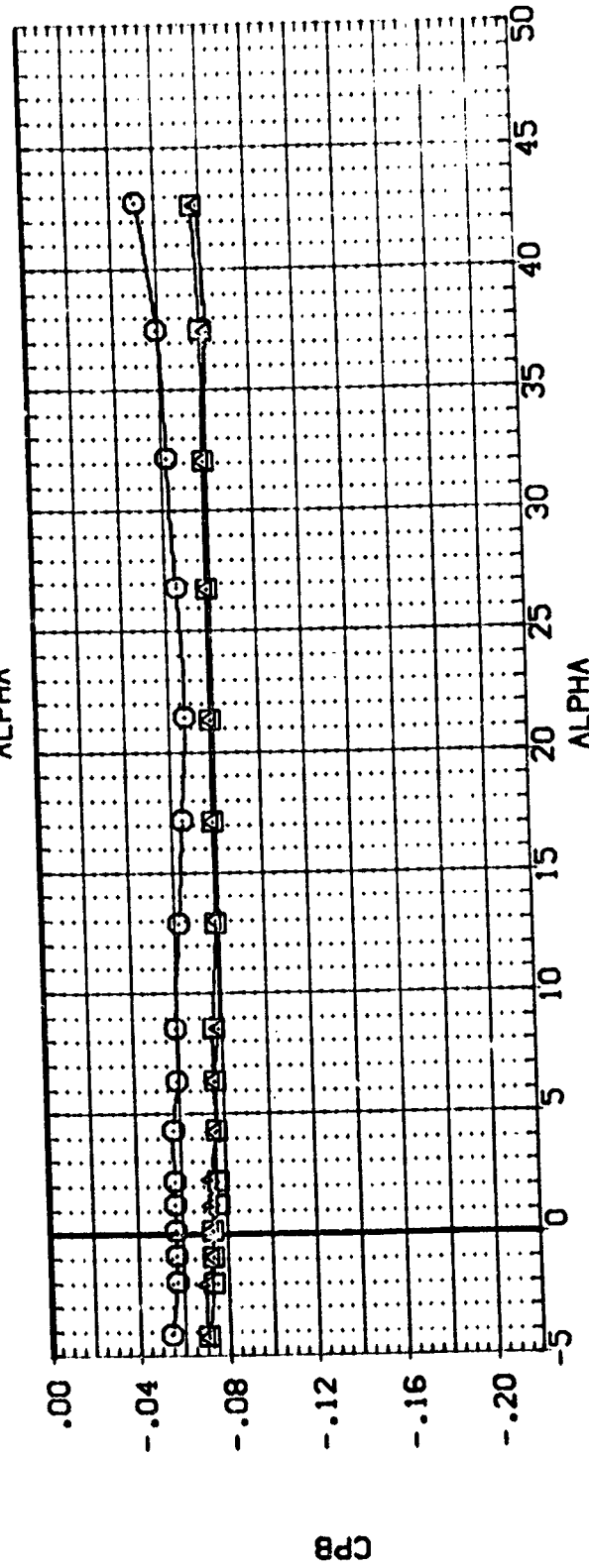
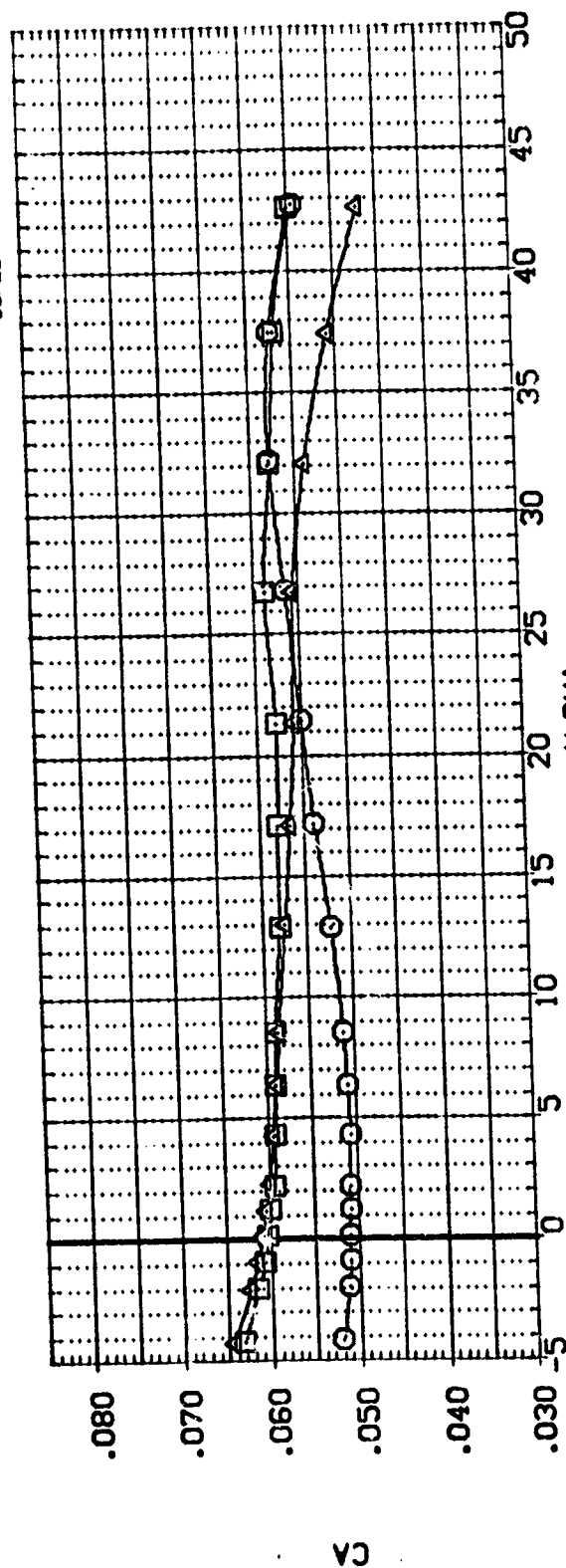
RUDFLR  
 .000  
 .000  
 40.000  
 40.000

BETA  
 .000  
 .000  
 .000  
 .000

LAWAF  
 75.000  
 75.000  
 75.000  
 75.000

CONFIGURATION DESCRIPTION  
 LA-10 LARC UPVT 1015 LO-100 CRB.(SHIPS) (BV2VFB)  
 LA-10 LARC UPVT 1015 LO-100 CRB.(SHIPS) (BV2VFB)  
 DATA NOT AVAILABLE  
 LA-10 LARC UPVT 1015 LO-100 CRB.(SHIPS) (BV2VFB)

DATA SET SYMBOL  
 (BP8008)  
 (BP8012)  
 (BP8016)  
 (BP8014)

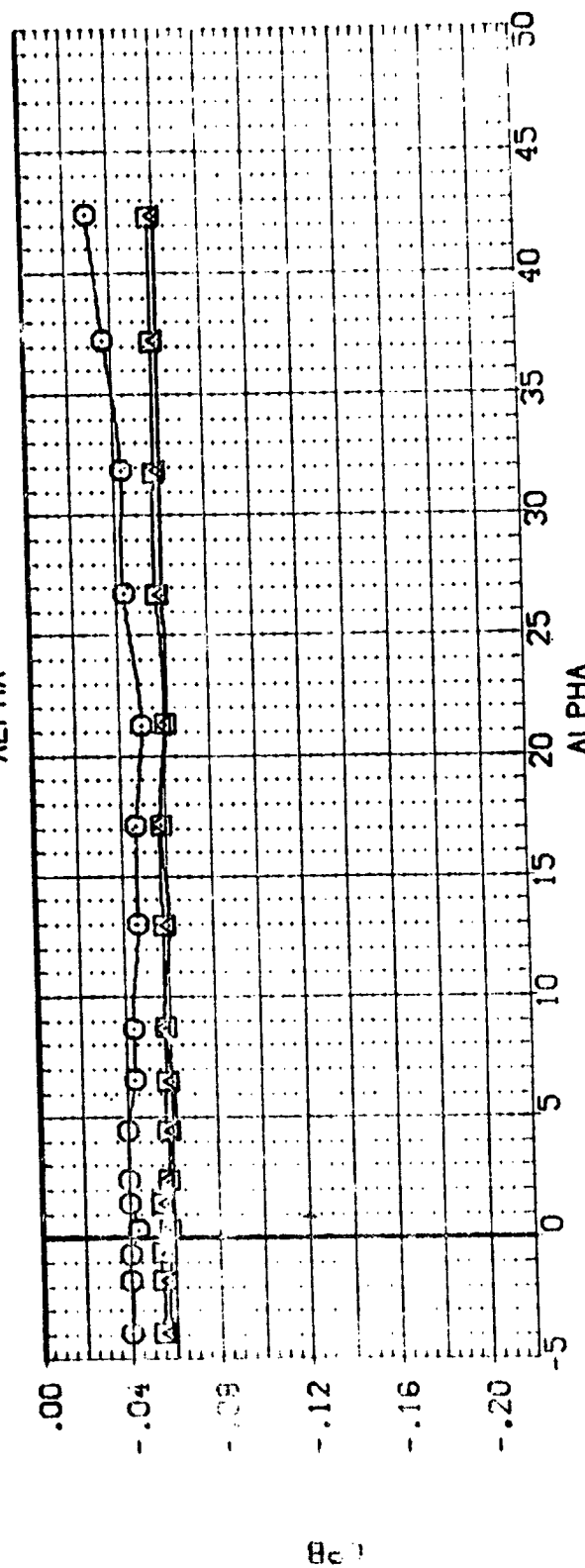
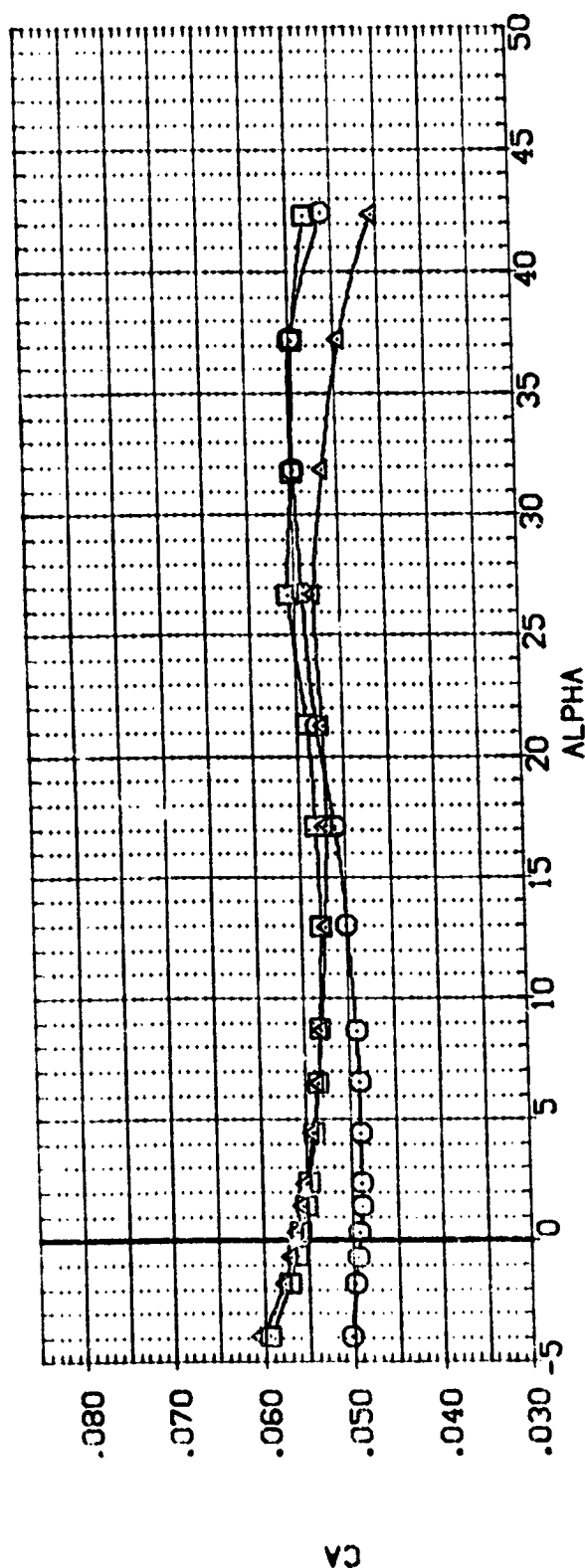


EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

(C)MACH = 3.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	BETA	RUDFLR	ELEVTR	REFERENCE INFORMATION
(BP8008)	LA-10 LARC UPVT 1015 LO-100 0P8 (SHIP5) (BV2VFB)	75.000	.000	.000	.000	SREF 171.4720 50. IN.
(BP8312)	LA-10 LARC UPVT 1015 LO-100 0P8 (SHIP5) (BV2VFB)	75.000	.000	40.000	.000	LREF 25.5100 INCHES
(BP8316)	LA-10 LARC UPVT 1015 LO-100 0P8 (SHIP5) (BV2VFB)	75.000	.000	.000	-10.000	BREF 23.3597 INCHES
(BP8014)	LA-10 LARC UPVT 1015 LO-100 0P8 (SHIP5) (BV2VFB)	75.000	.000	40.000	-10.000	VMRP 16.8386 INCHES
	DATA NOT AVAILABLE					ZMRP .0000 INCHES
						SCALE .0188 INCHES



EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

(C)MACH = 4.63



DATA SET SYMBOL  
(BP8008)  
(BP8012)  
(BP8016)  
(BP8014)

CONFIGURATION DESCRIPTION  
LA-10 LARC UPVT 1015 LG-100 CRB.(SHIPS)  
LA-10 LARC UPVT 1015 LG-100 CRB.(SHIPS)  
LA-10 LARC UPVT 1015 LG-100 CRB.(SHIPS)  
LA-10 LARC UPVT 1015 LG-100 CRB.(SHIPS)

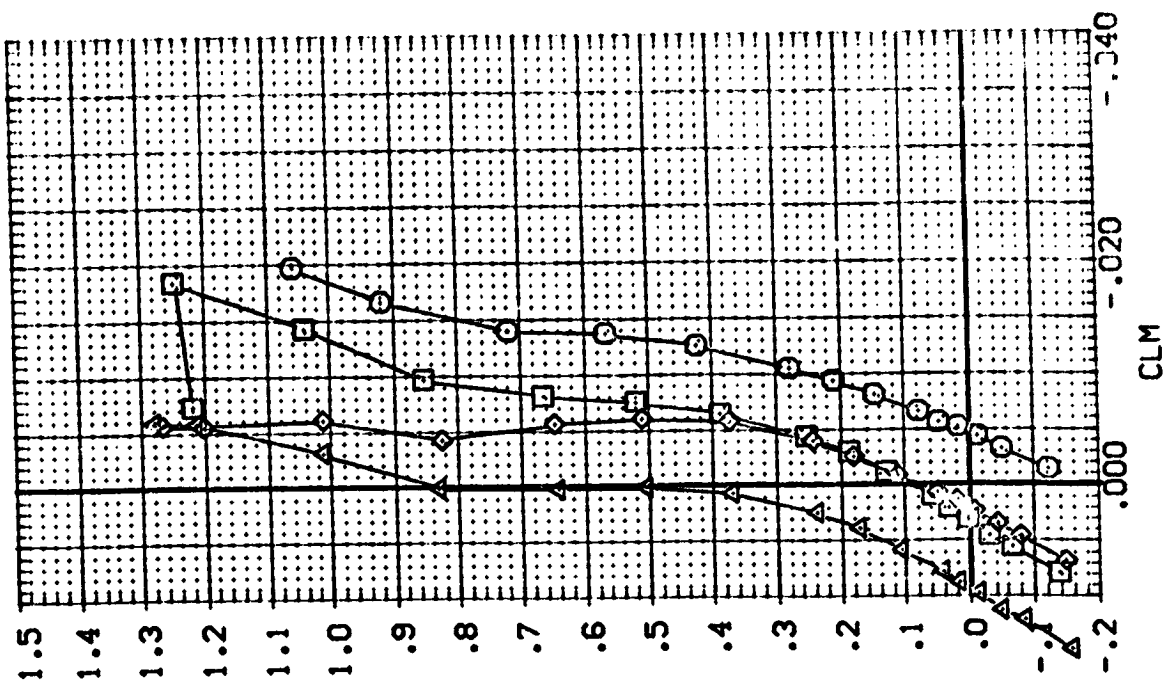
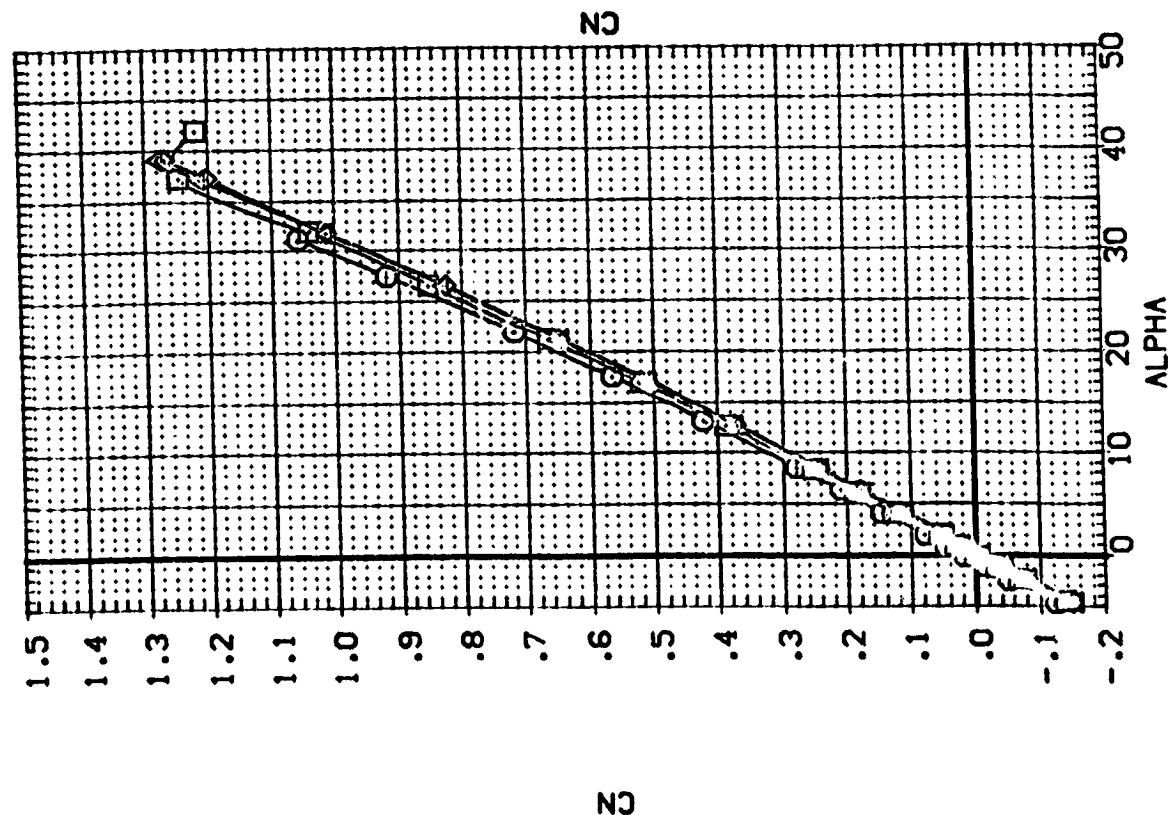
LANDAF  
75.000  
75.000  
75.000  
75.000

BETA  
.000  
.000  
.000  
.000

RUDFLR  
.000  
40.000  
40.000  
40.000

ELEVTR  
.000  
.000  
-10.000  
+10.000

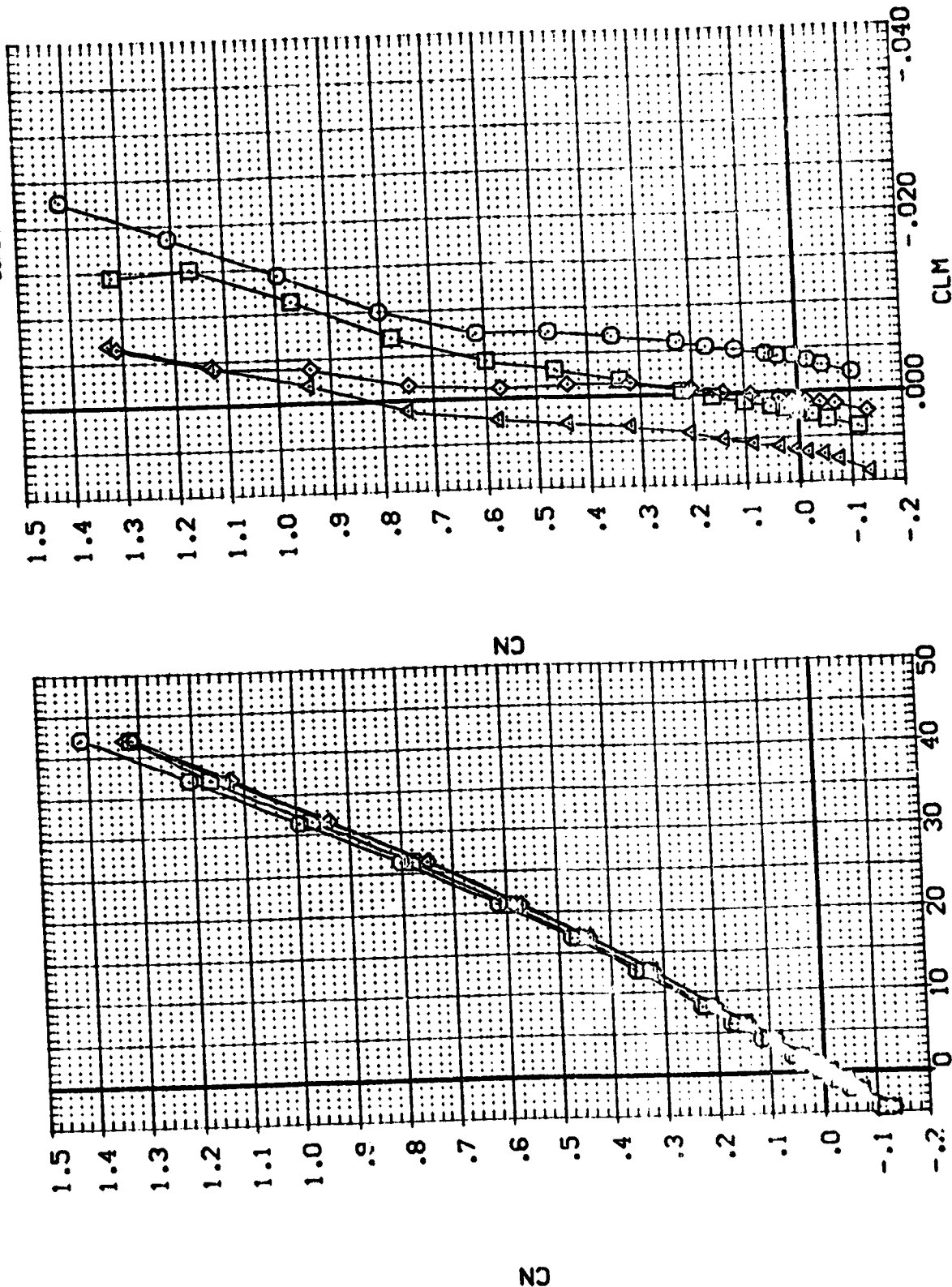
REFERENCE INFORMATION  
SREF 171.4720 SQ.IN.  
LREF 25.5100 INCHES  
BREF 20.3597 INCHES  
XREF 16.8366 INCHES  
YREF .0000 INCHES  
ZREF .0000 INCHES  
SCALE .0188



EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

(A)MACH = 2.36

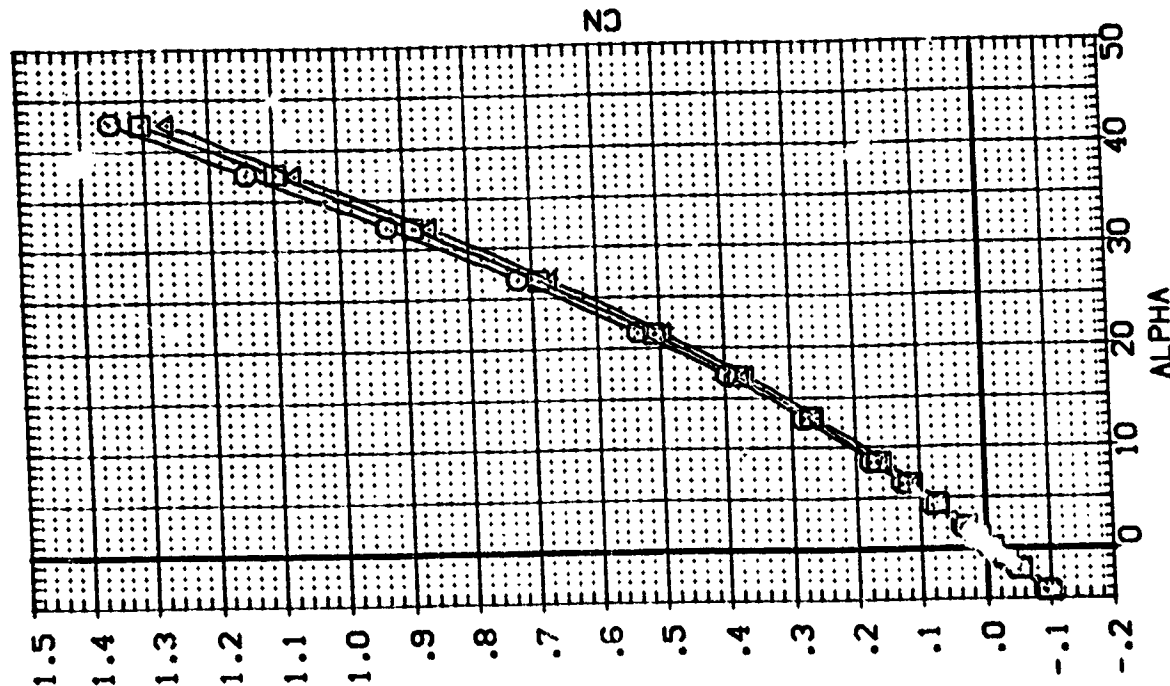
DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	CRB	(SHIPS)	(BVZVFB)	LANDAF	BETA	RUOFLR	ELEVTR	REFERENCE INFORMATION
(BP8008)	LA-10 LARC	UPVT 1015 LO-100	CRB	(SHIPS)	(BVZVFB)	75.000	.000	.000	.000	SREF 171.4720
(BP8012)	LA-10 LARC	UPVT 1015 LO-100	CRB	(SHIPS)	(BVZVFB)	75.000	.000	.000	.000	LREF 25.5100
(BP8016)	LA-10 LARC	UPVT 1015 LO-100	CRB	(SHIPS)	(BVZVFB)	75.000	.000	.000	.000	BRF 20.3597
(BP8014)	LA-10 LARC	UPVT 1015 LO-100	CRB	(SHIPS)	(BVZVFB)	75.000	.000	.000	.000	YPRP 16.8366
							.000	.000	.000	ZPRP .0000
							.000	.000	.000	SCALE .0188



EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

(B)MACH = 2.86

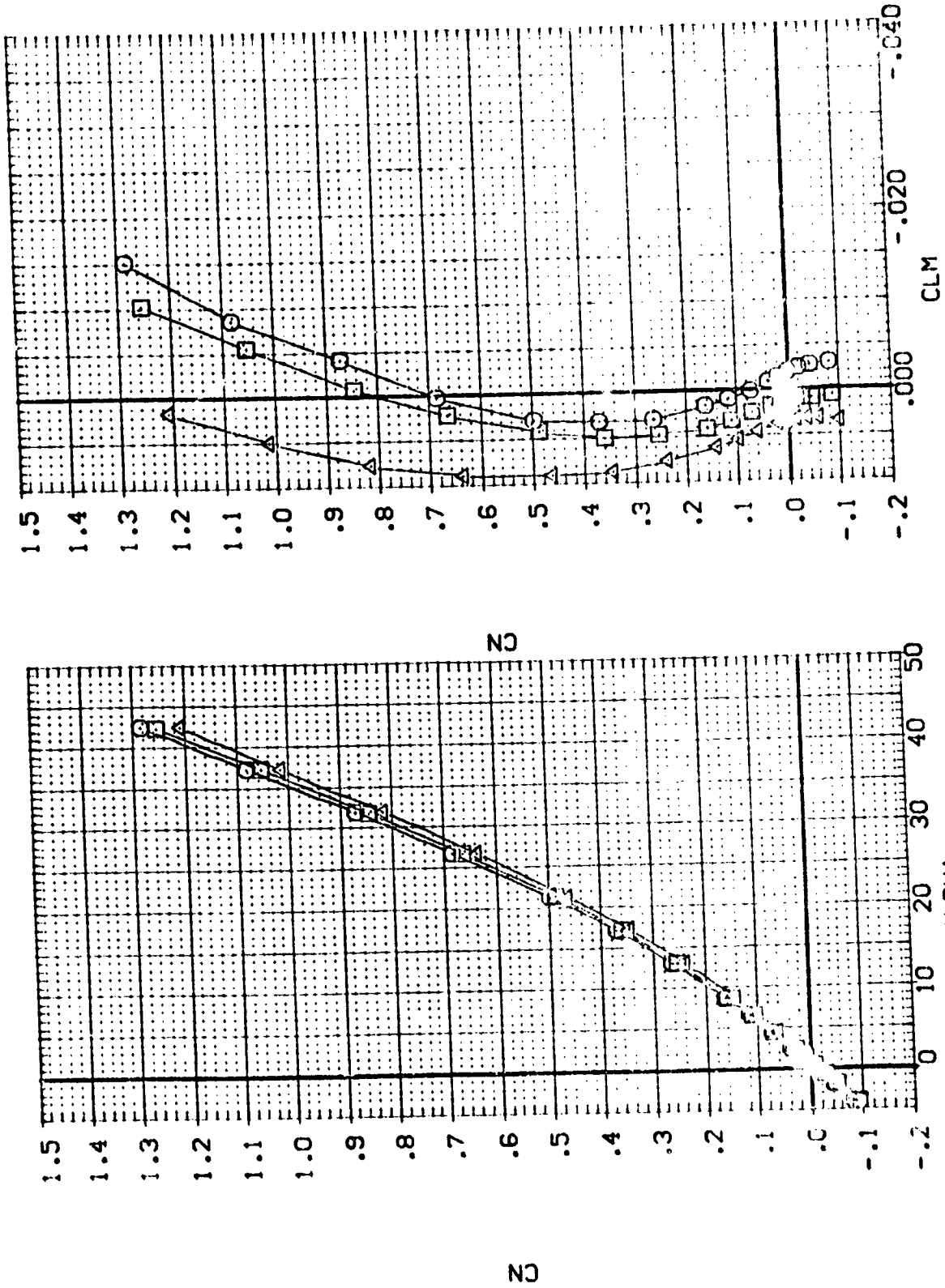
DATA SET SYMBOL	CONF. CONFIGURATION	DESCRIPTION	(BV2VFB)
(BP6008)	LA-10 LARC UPT 1015	LO-100	(BV2VFB)
(BP6012)	LA-10 LARC UPT 1015	LO-100	(BV2VFB)
(BP6016)	DATA NOT AVAILABLE		(BV2VFB)
(BP6014)	LA-10 LARC UPT 1015	LO-100	(BV2VFB)



**EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)**

$$\{C\}_{MACH} = 3.96$$

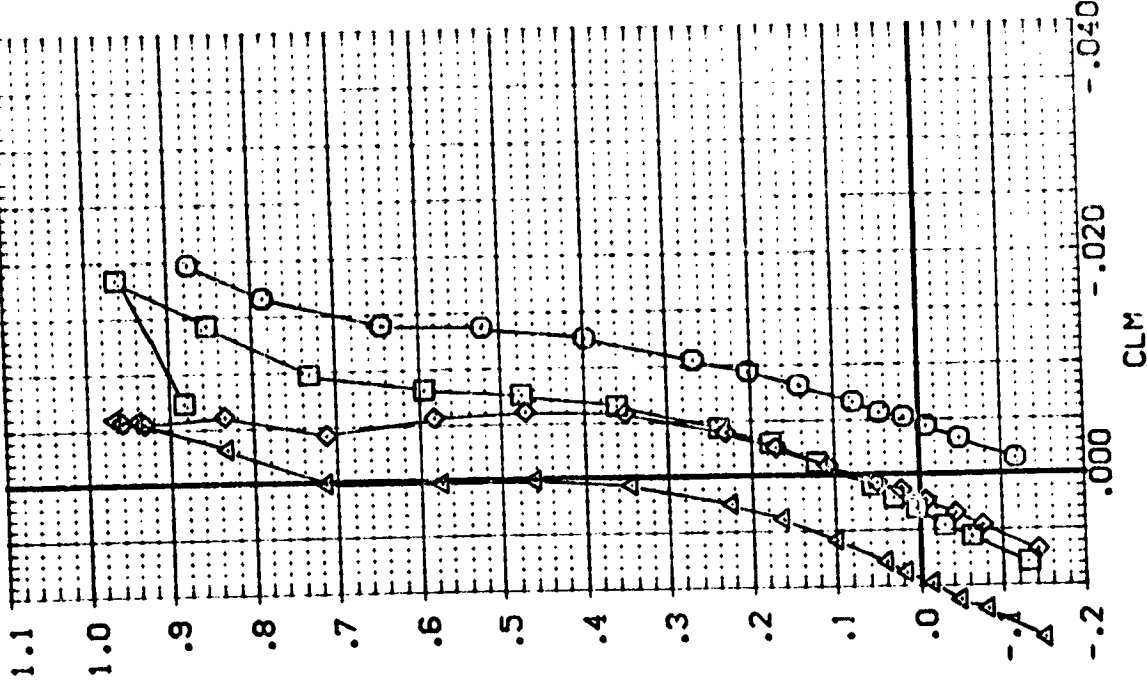
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LAMDAF	BETA	RUOFLR	ELEVTR	REFERENCE INFORMATION
(BP8003)	LA-10 LARC UPVT 1015 LG-100 QRB.(SHIPS) (BV2VFB)	75.000	.000	.000	.000	SREF 171.472C
(BP8012)	LA-10 LARC UPVT 1015 LG-100 QRB.(SHIPS) (BV2VFB)	75.000	.000	40.000	.000	LREF 25.510C
(BP8015)	DATA NOT AVAILABLE	75.000	.000	.000	-10.000	BREF 20.3597
(BP8014)	LA-10 LARC UPVT 1015 LG-100 QRB.(SHIPS) (BV2VFB)	75.000	.000	40.000	-10.000	XMRP 16.8366
						YMRP .000C
						ZMRP .000C
						SCALE 10.88



EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

(COMACH = 4.63

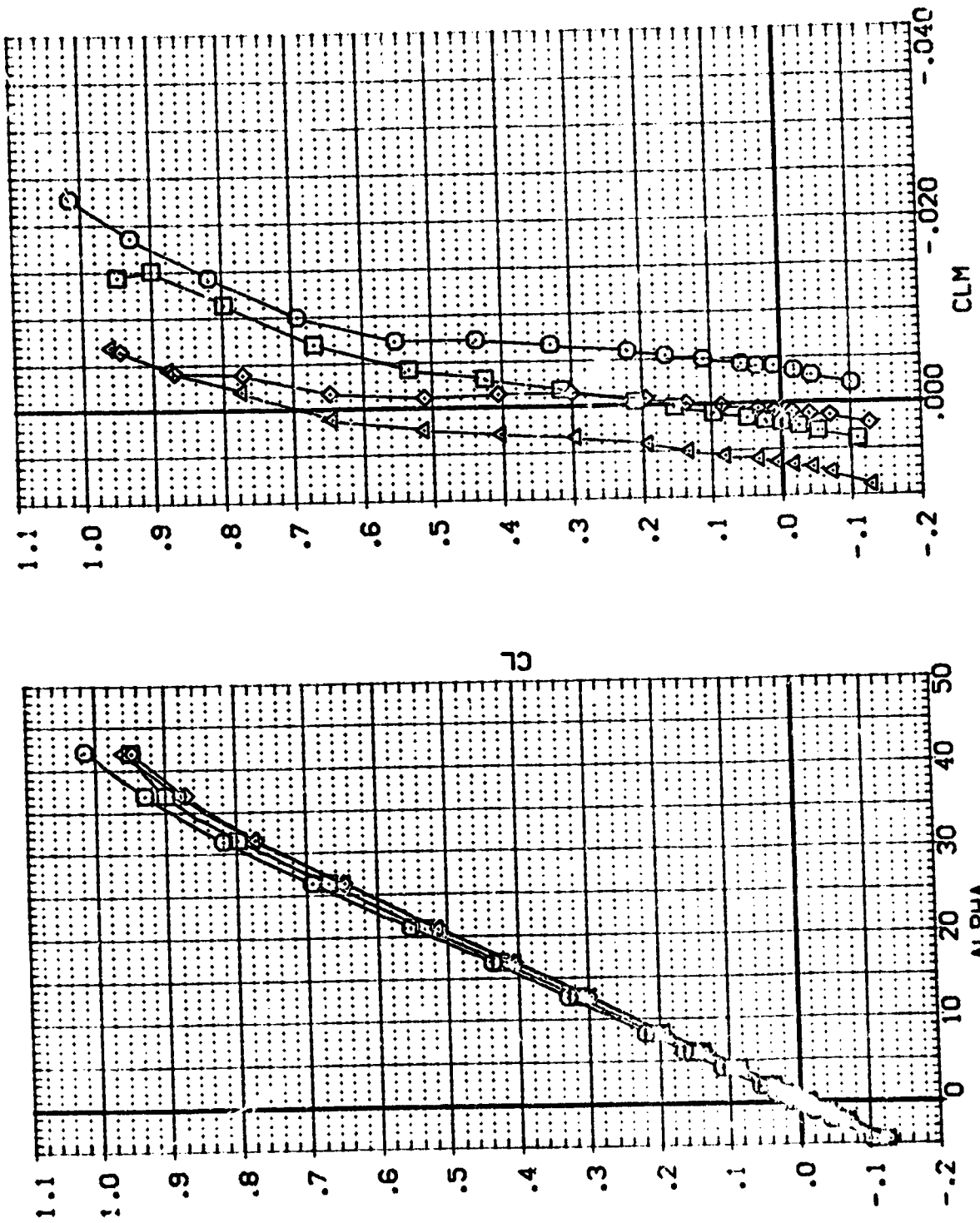
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SREF	17: 4720
UREF	25: 5100
BREF	20: 3697
WREF	16: 8336
VREF	00: 0000
ZREF	00: 0000
SCALE	0.003



DATE \_\_\_\_\_  
PAGE \_\_\_\_\_

$$[A]_{MACH} = 2.36$$

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	DRB (SHIPS)	(BV2W)	LANDAF	BETA	RUDFLR	ELEVTR	REFERENCE INFORMATION
(B) 508	LA-10 LARC UPVT 1015 LG-100	DRB (SHIPS)	(BV2W)	75.000	.000	.000	.000	SREF 171.4720
(B) 509	LA-10 LARC UPVT 1015 LG-100	DRB (SHIPS)	(BV2W)	75.000	.000	40.000	.000	LOFF 25.5100
(B) 510	LA-10 LARC UPVT 1015 LG-100	DRB (SHIPS)	(BV2W)	75.000	.000	.000	-10.000	BRE 20.3557
(B) 511	LA-10 LARC UPVT 1015 LG-100	DRB (SHIPS)	(BV2W)	75.000	.000	40.000	.000	XMRP 16.8366
(B) 512	LA-10 LARC UPVT 1015 LG-100	DRB (SHIPS)	(BV2W)	75.000	.000	.000	.000	YMRP .0000
(B) 513	LA-10 LARC UPVT 1015 LG-100	DRB (SHIPS)	(BV2W)	75.000	.000	.000	.000	ZMRP .0000
(B) 514	LA-10 LARC UPVT 1015 LG-100	DRB (SHIPS)	(BV2W)	75.000	.000	.000	.000	SCALE .0188



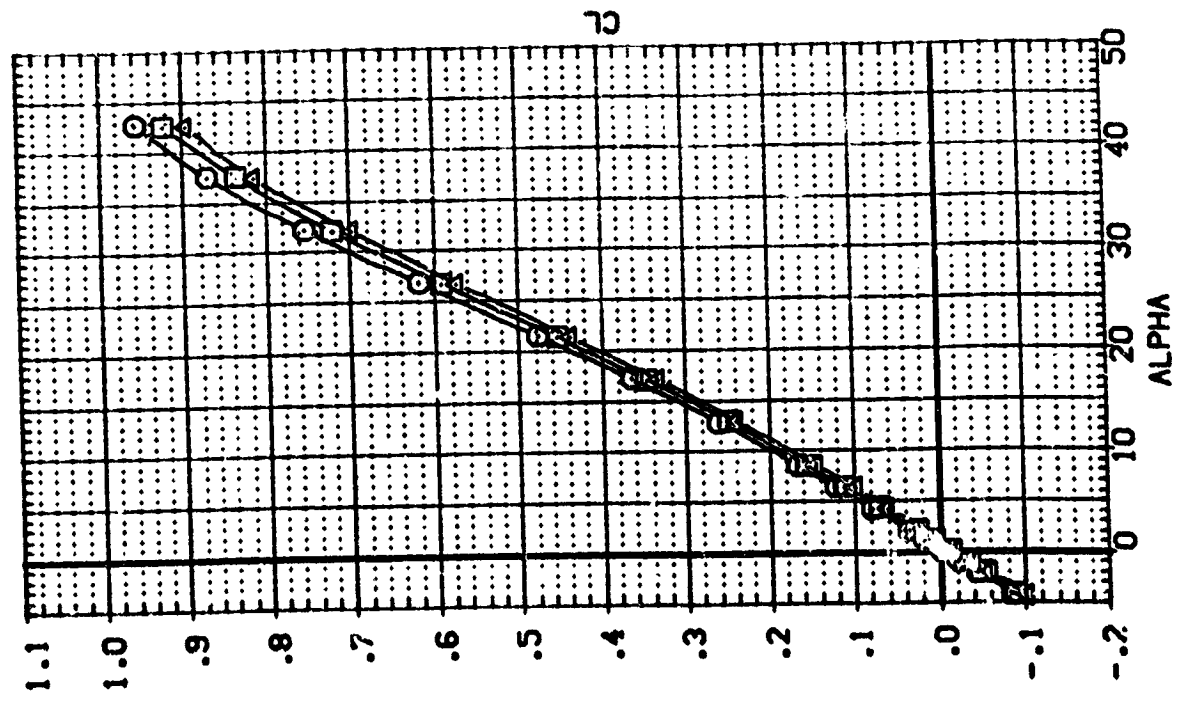
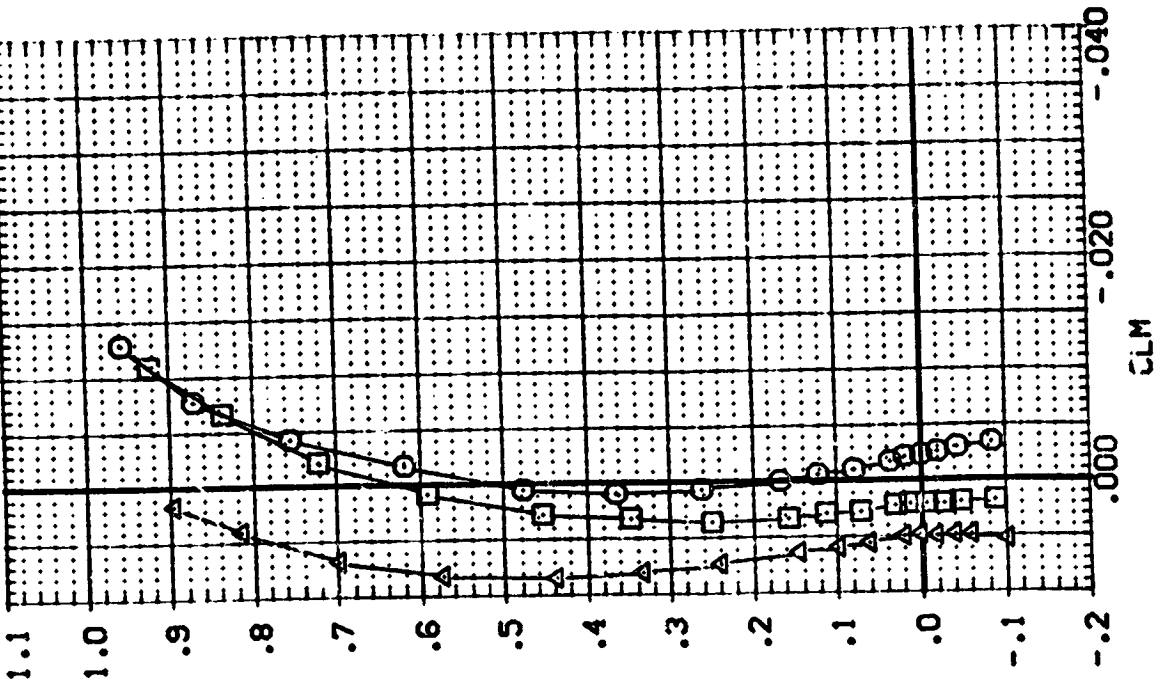
EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

(B)MACH = 2.86

DATA SET SYMBOL  
 (BFB014)  
 (BFB012)  
 (BFB016)  
 (BFB014)

CONFIGURATION DESCRIPTION  
 LA-10 LARC UPVT 1015 LO-100 ORB.(SHIPS) (BVZVFB)  
 LA-10 LARC UPVT 1015 LO-100 ORB.(SHIPS) (BVZVFB)  
 DATA NOT AVAILABLE  
 LA-10 LARC UPVT 1015 LO-100 ORB.(SHIPS) (BVZVFB)

REFERENCE INFORMATION  
 SREF 171.4720 SQ.IN.  
 LREF 25.5100 INCHES  
 BREF 20.3597 INCHES  
 XMRP 15.8366 INCHES  
 YMRP .0000 INCHES  
 ZMRP .0000 INCHES  
 SCALE .0188



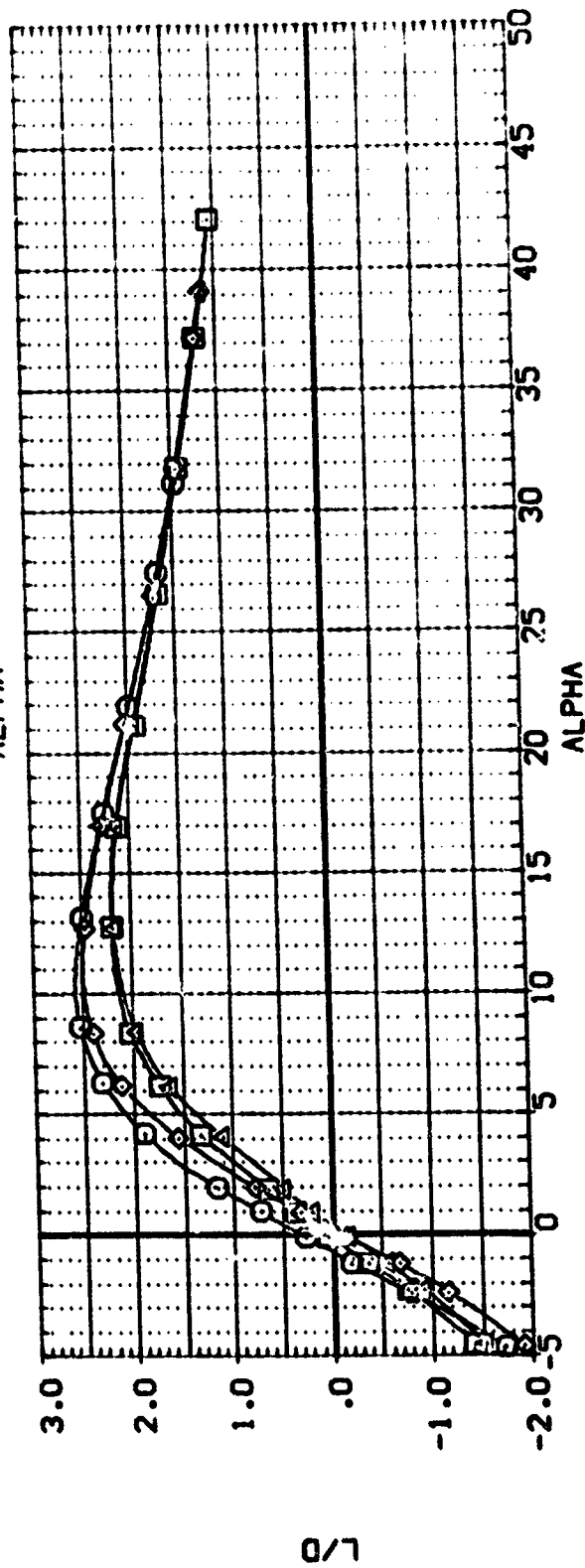
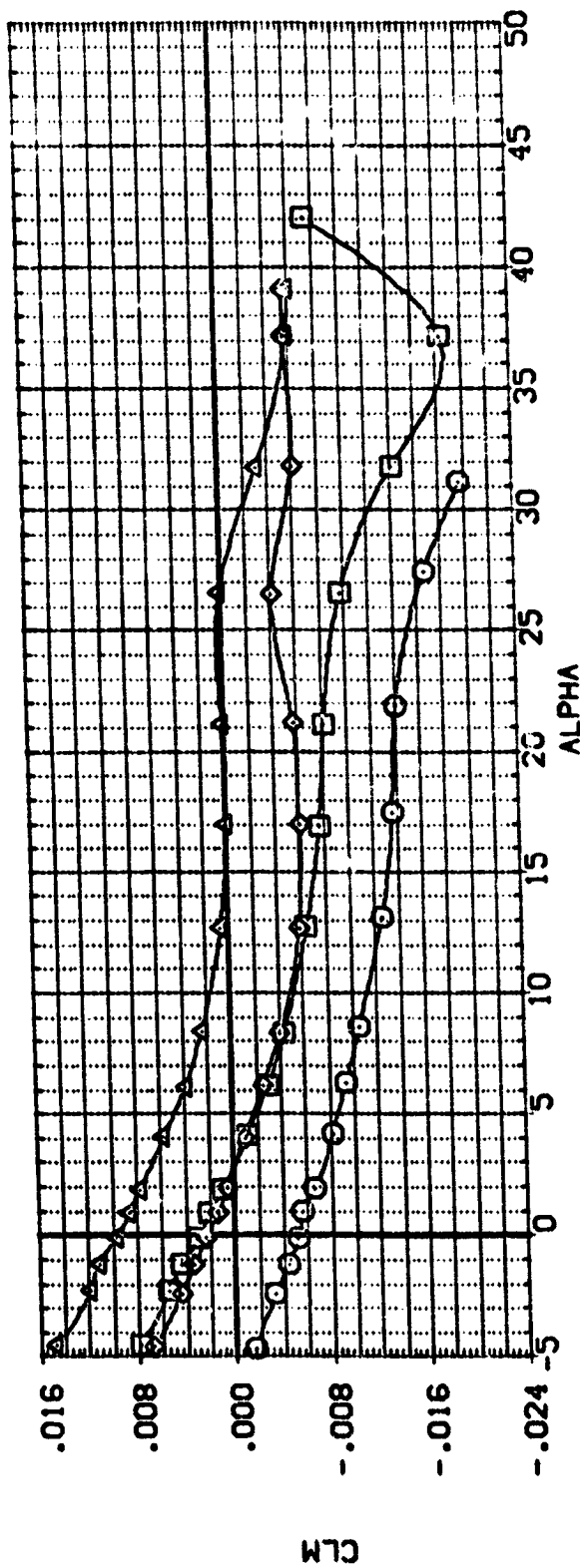
EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

(C)MACH = 3.96





DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION		ELEVTR		BETA		RUOFLR		LAWDAF		SCALE	
(BP8003)	LA-10 LARC UPVT 1015 LO-100	CR8.(SHIP)	(BV2VFB)	75.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(BP8012)	LA-10 LARC UPVT 1015 LO-100	CR3.(SHIP)	(BV2VFB)	75.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(BP8016)	LA-10 LARC UPVT 1015 LO-100	CR8.(SHIP)	(BV2VFB)	75.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(BP8014)	LA-10 LARC UPVT 1015 LO-100	CR8.(SHIP)	(BV2VFB)	75.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



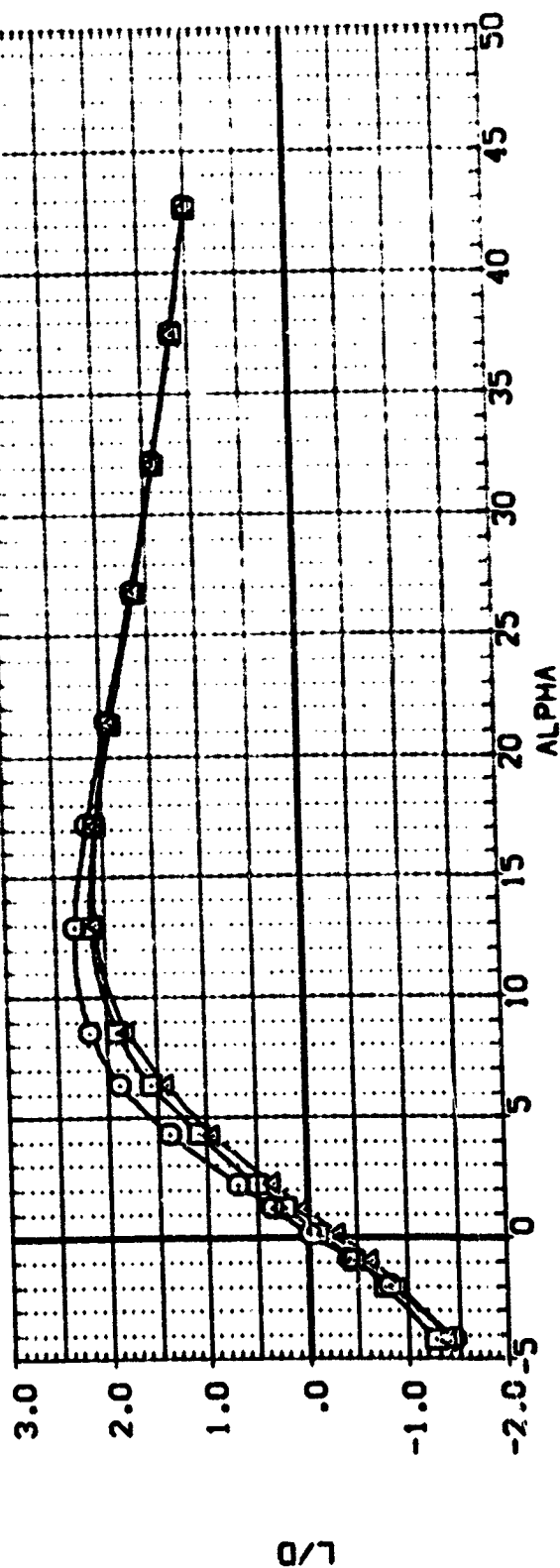
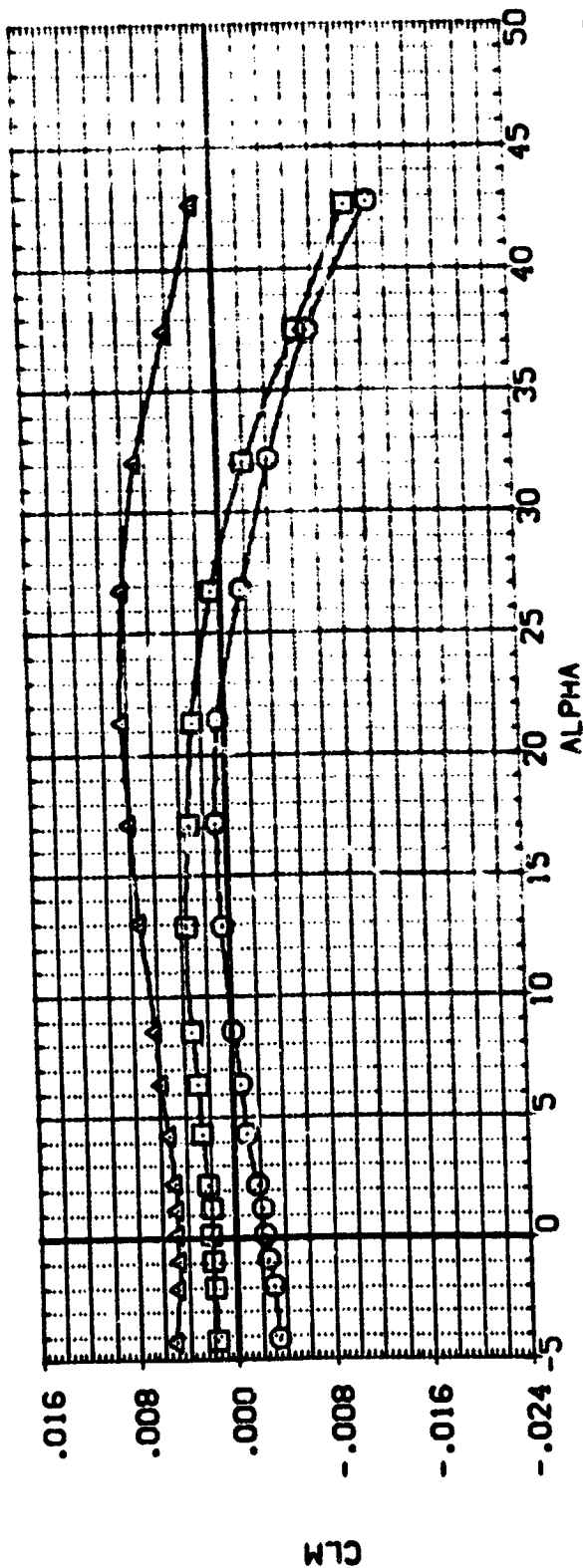
EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

(A)MACH = 2.36



CONFIGURATION	DESCRIPTION
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LA-10 LARC UPVT	1015 LO-100
DATA NOT AVAILABLE	
LA-10 LARC UPVT	1015 LO-100

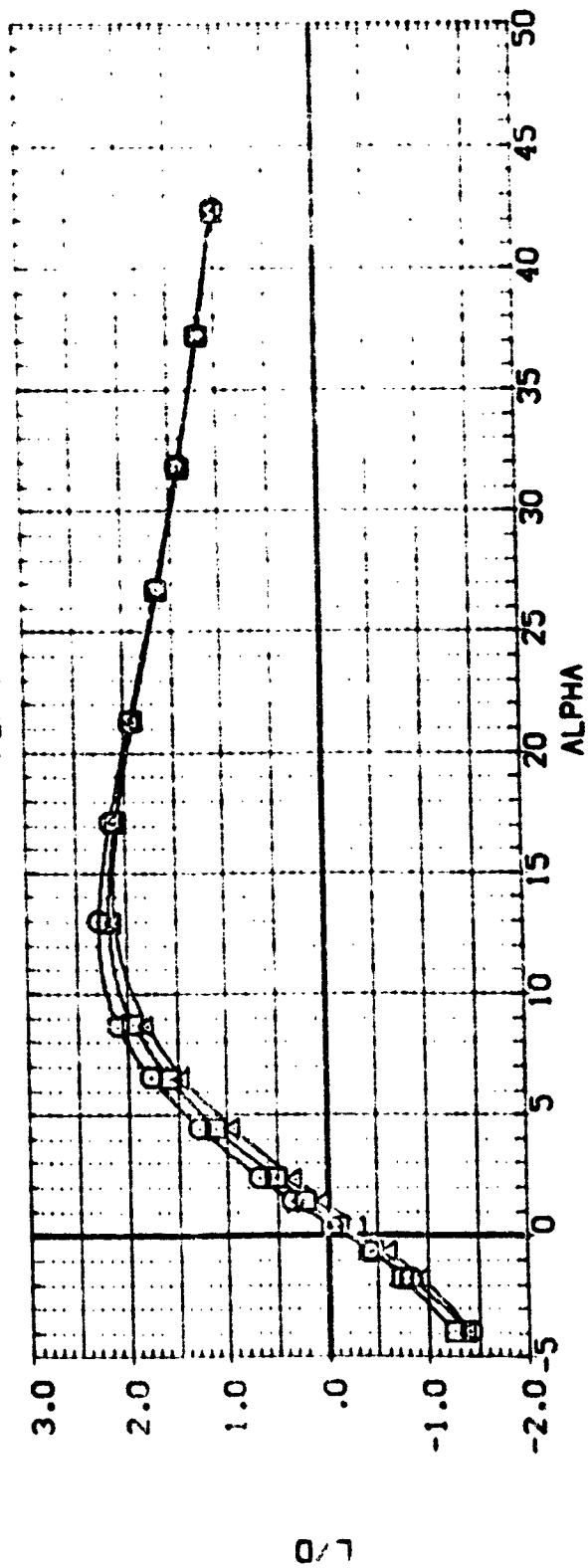
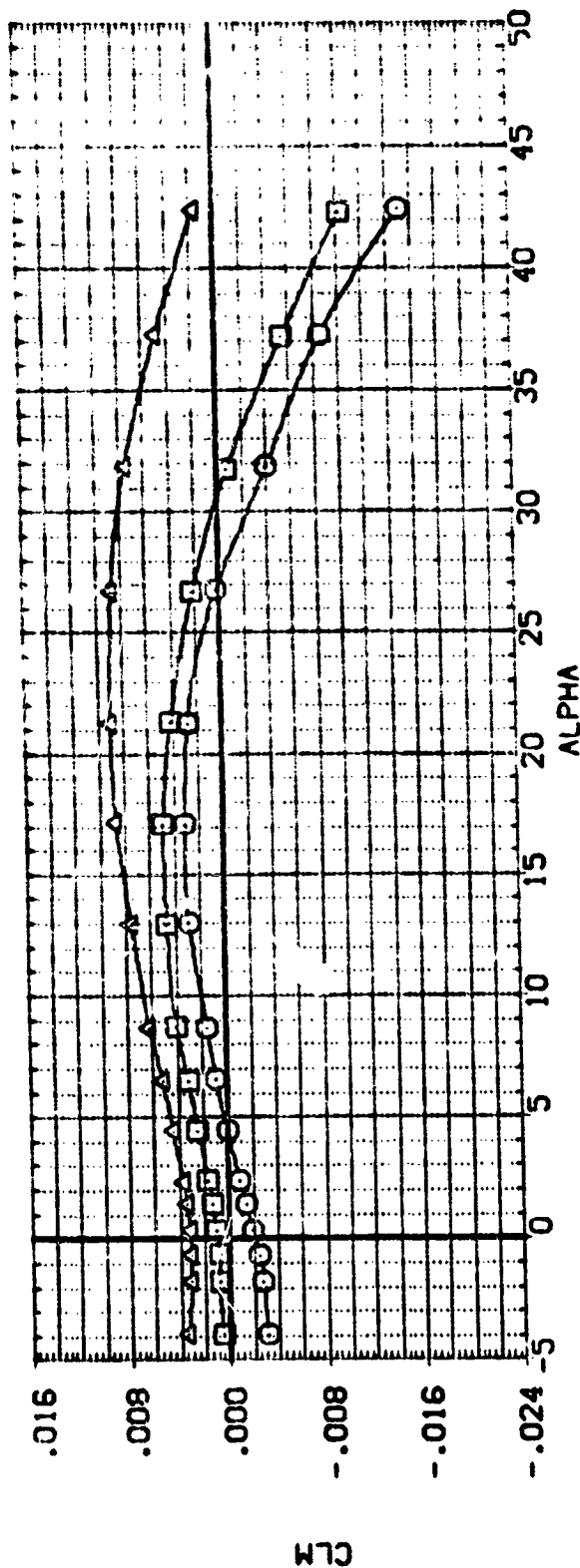
LANDF	BETA	RUDFLR	ELEVTR	REFERENCE INFORMATION
.000	.000	.000	SREF	171.4720
75.000	.000	.000	LSRF	25.5100
75.000	.000	40.000	BREF	20.7590
75.000	.000	.000	-10.000	16.8250
75.000	.000	40.000	+10.000	0.0000
			WREF	0.0000
			ZREF	0.0000
			SCALE	0.1000



EEFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

$$(C)_{MACH} = 3.96$$

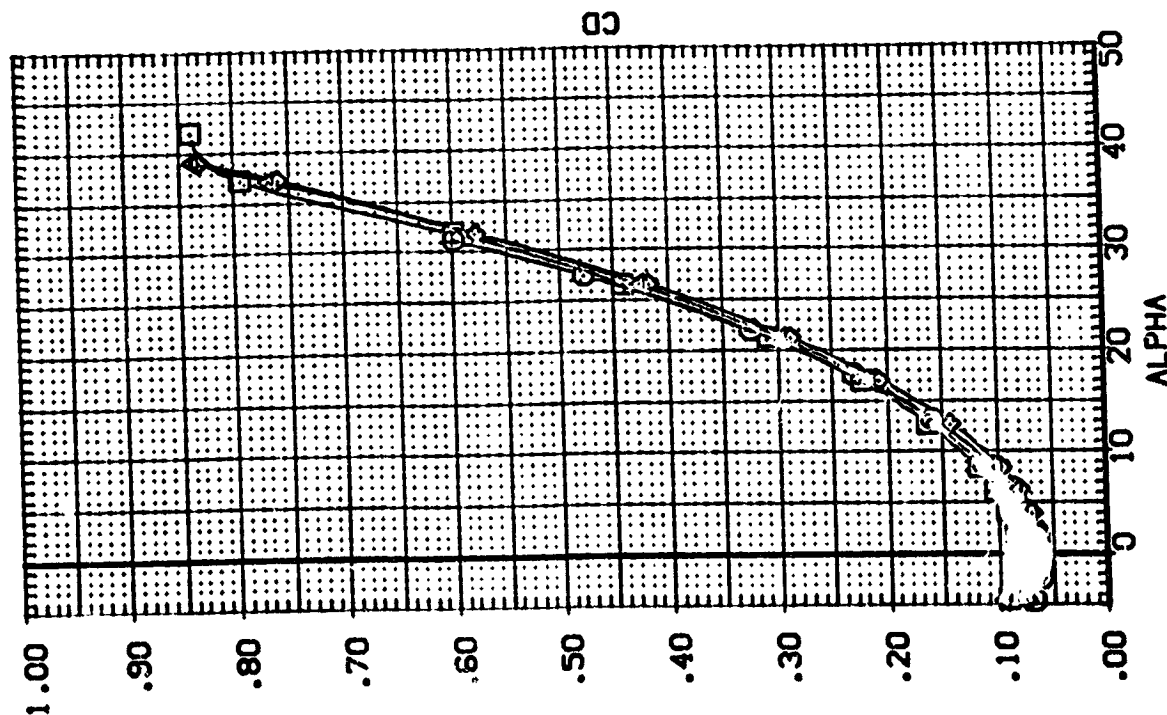
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LAND	BETA	RUFLR	ELEVTR	REFERENCE INFORMATION
(3P8008)	LA-10 LARC UPVT 1015 LO-100 DB8.(S-1PS) (8V2VFB)	75.000	.000	.000	.000	SREF 171.4720 50. IN.
(8P8012)	LA-10 LARC UPVT 1015 LO-100 DB8.(S-1PS) (8V2VFB)	75.000	.000	40.000	.000	LREF 25.5100 INCHES
(8P8016)	DATA NOT AVAILABLE	75.000	.000	.000	-10.000	HREF 20.7397 INCHES
(3P8014)	LA-10 LARC UPVT 1015 LO-100 DB8.(S-1PS) (8V2VFB)	75.000	.000	40.000	-10.000	XREF 6.9365 INCHES
						YREF .0000 INCHES
						ZREF .0000 INCHES
						SCALE 3.85



EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

(0)MACH = 4.63

DATA SET SYMBOL	CONFIGURATION	DESCRIPTION	
(B*6009)	LA-10 LARC UPVT	1015 LO-100	(B*2VFB)
(B*6012)	LA-10 LARC UPVT	1015 LO-100	(B*2VFB)
(B*6016)	LA-10 LARC UPVT	1015 LO-100	(B*2VFB)
(B*6014)	LA-10 LARC UPVT	1015 LO-100	(B*2VFB)

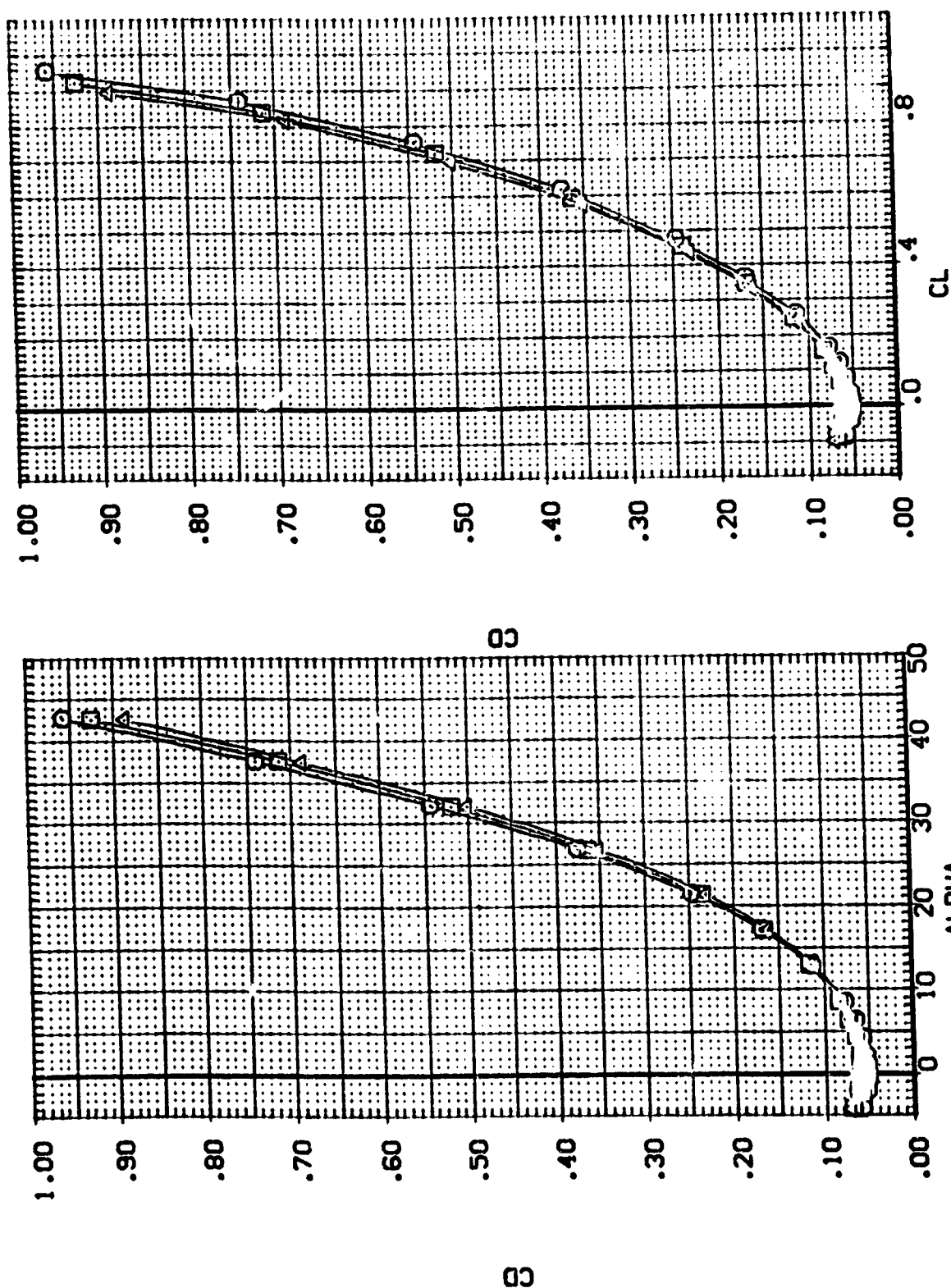


### EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

$$\{A\}_{MACH} = 2.36$$



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDFL	BETA	RUDDFLR	ELEVTR	REFERENCE INFORMATION
(BP8008)	LA-10 LARC UPVT 1015 LO-100 DBB.(SHIPS) (BV2VFB)	75.000	.000	.000	.000	171.4720 SQ. IN.
(BP8012)	LA-10 LARC UPVT 1015 LO-100 DBB.(SHIPS) (BV2VFB)	75.000	.000	40.000	.000	25.5100 INCHES
(BP8016)	LA-10 LARC UPVT 1015 LO-100 DBB.(SHIPS) (BV2VFB)	75.000	.000	.000	-10.000	20.3597 INCHES
(BP8014)	LA-10 LARC UPVT 1015 LO-100 DBB.(SHIPS) (BV2VFB)	75.000	.000	40.000	-10.000	16.8366 INCHES
	DATA NOT AVAILABLE					.0000 INCHES
						.0000 INCHES
						.0188 INCHES
						SCALE



EFFECT OF RUDDER FLARE (ANGLE OF FILLET=75 DEG.)

(CJ)MACH = 3.96





DATA SET SYMBOL CONFIGURATION DESCRIPTION LANDAF DBETA RUDFLR ELEVTR REFERENCE INFORMATION SQ. IN.

(EP8002) LA-10 LARC UPVT 10:5 LO-100 DB8.(SHIPS) (BW2VFB) 46.800 3.000 .000 SREF 171.4720 50.1720

(EP8006) LA-10 LARC UPVT 10:15 LO-100 DB8.(SHIPS) (BW2VFB) 65.000 3.000 .000 LREF 25.5130 25.5130

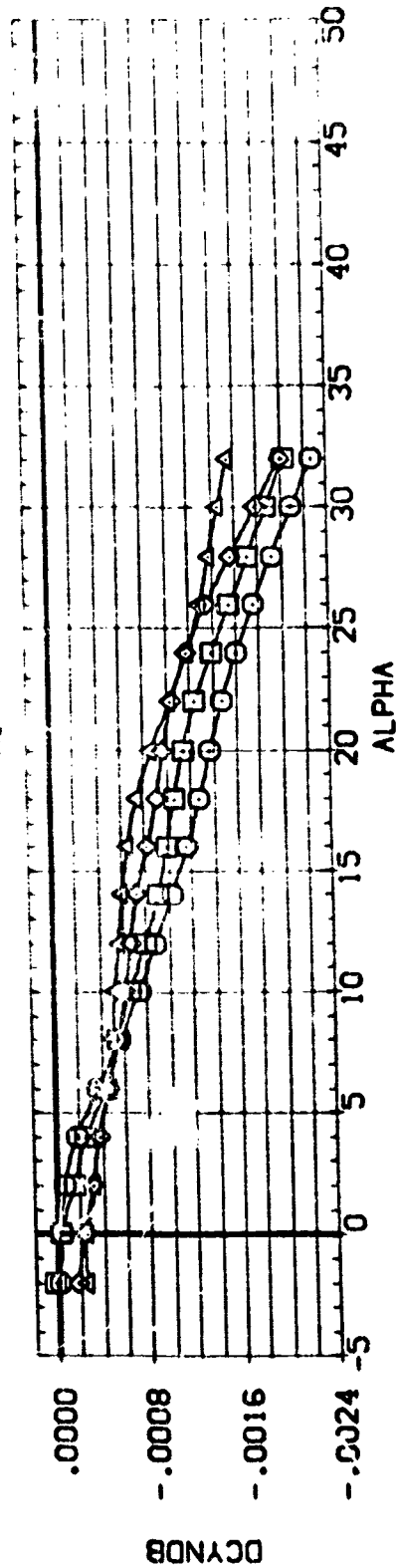
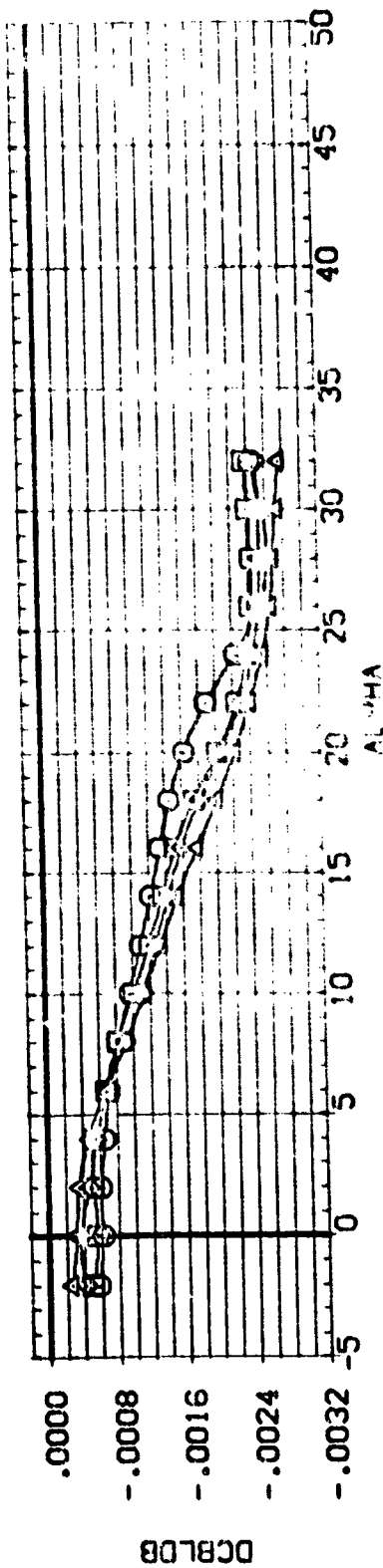
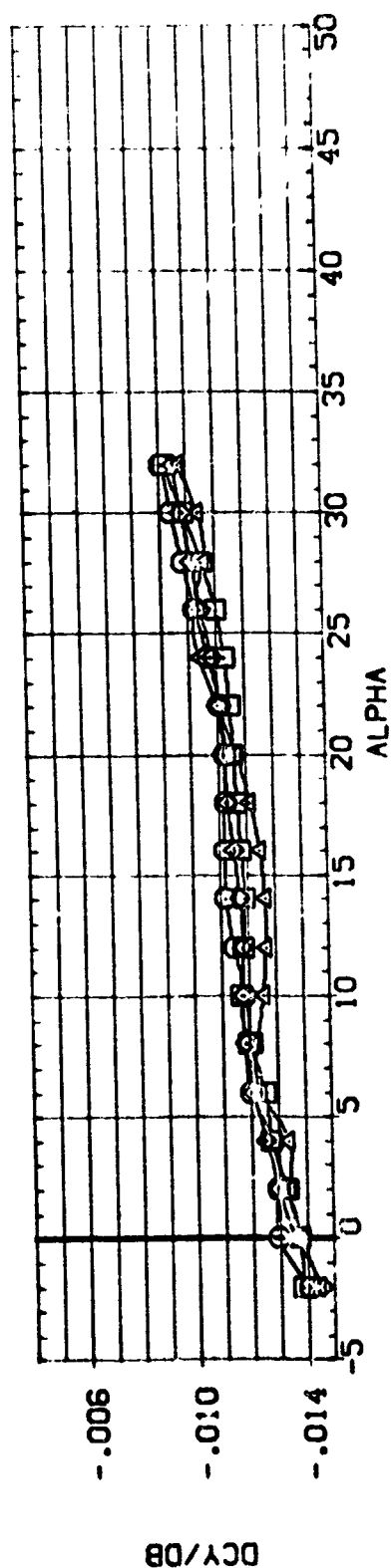
(EP8009) LA-10 LARC UPVT 10:15 LO-100 DB8.(SHIPS) (BW2VFB) 75.000 3.000 .000 BREF 20.3597 20.3597

(EP8011) LA-10 LARC UPVT 10:15 LO-100 DB8.(SHIPS) (BW2VFB) 78.000 3.000 .000 XMRP 16.8356 16.8356

YMRP .0000 .0000

ZMRP .0000 .0000

SCALE .0188 .0188

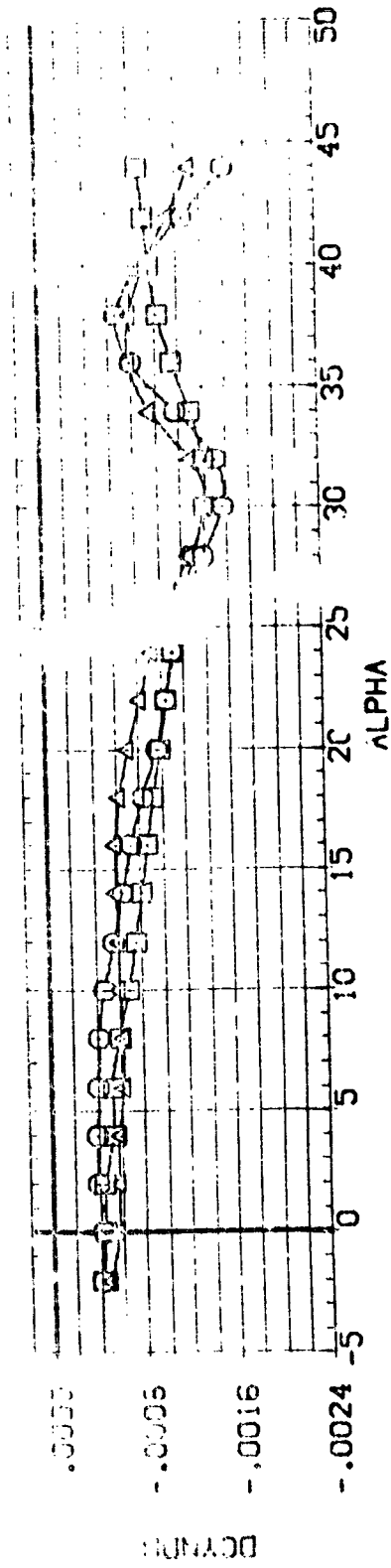
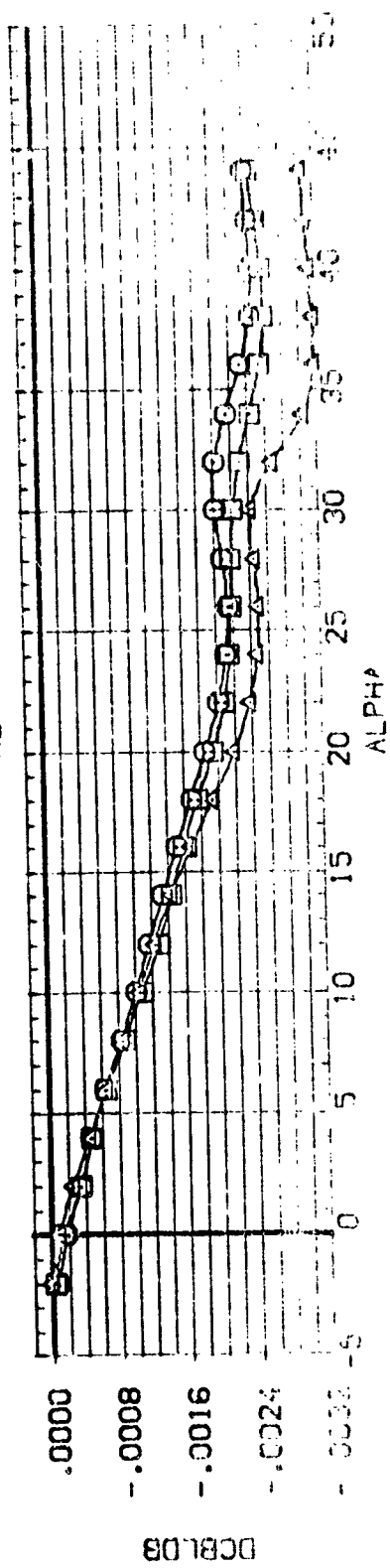
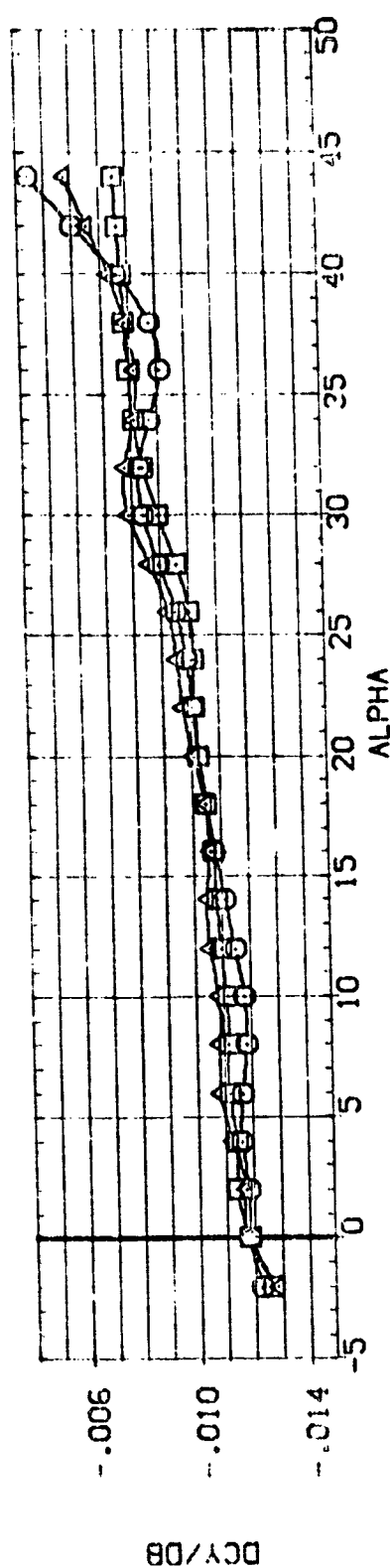


EFFECT OF FILLET ON LAT.-DIR. CHAR.(BW2VFB)

(A)MACH = 2.36

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

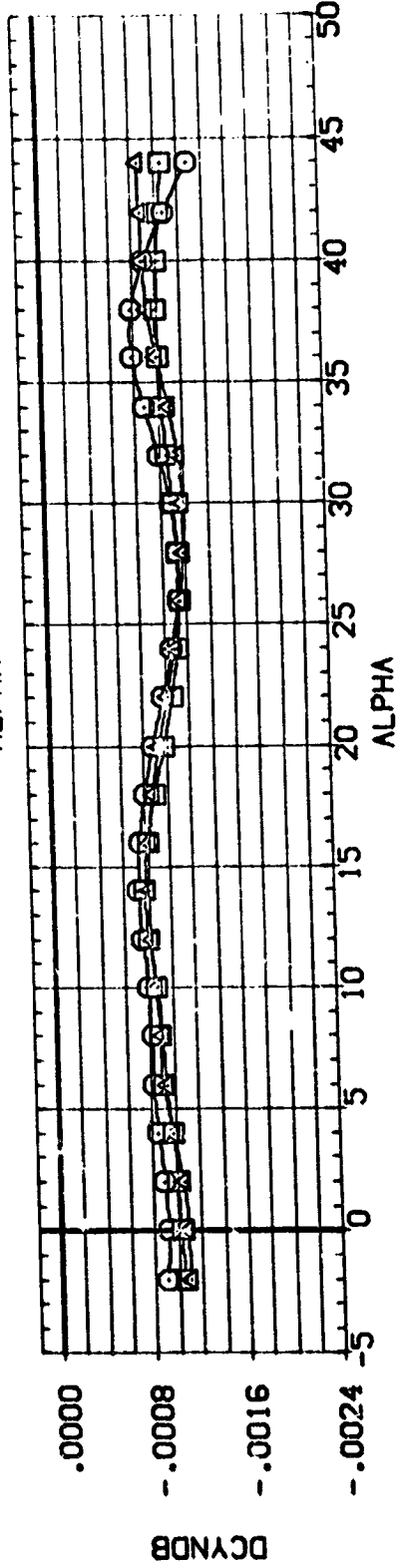
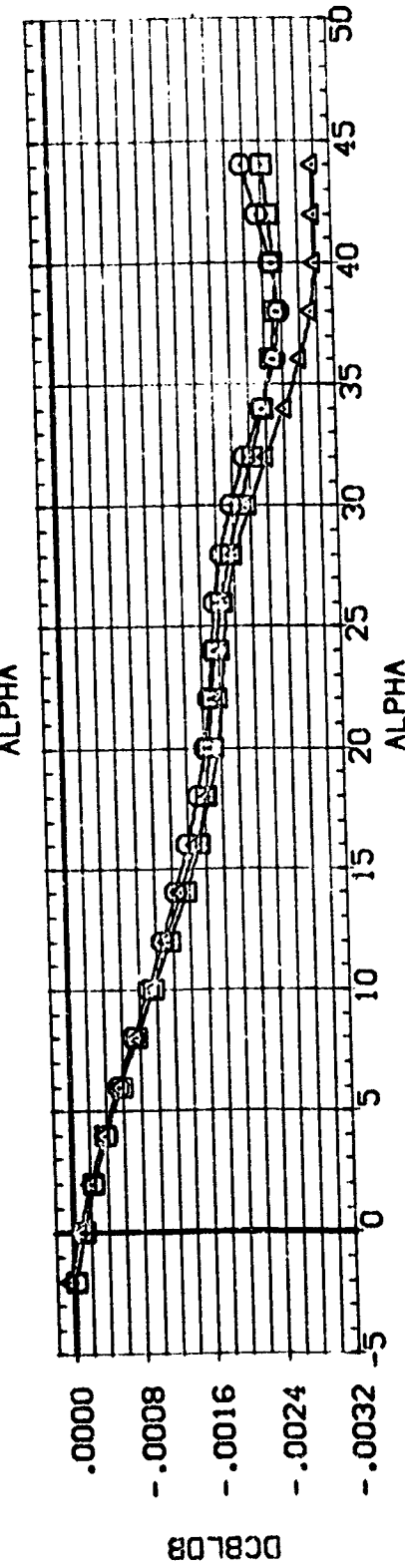
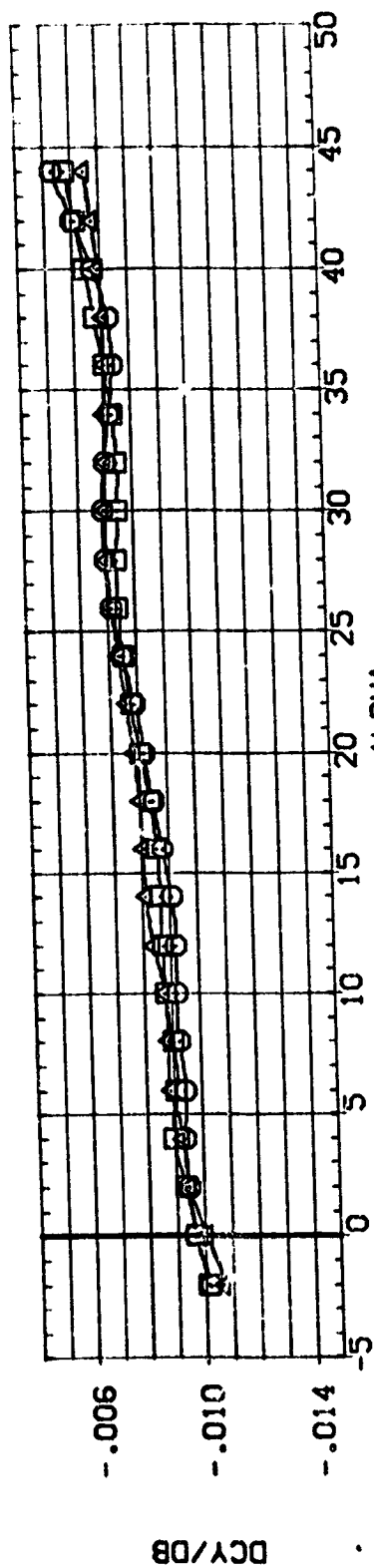
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LAOAF	DBETA	RDOFLR	ELEVTR	REFERENCE INFORMATION
LA-10 LARC UPVT 1015 LC-100 DBP8.(SHIPS) (BV2VFB)		46.800	3.000	.000	.000	SREF 171.4720 SC-IN.
LA-10 LARC UPVT 1015 LC-100 DBP8.(SHIPS) (BV2VFB)		65.000	3.000	.000	.000	LREF 26.5100 INCHES
LA-10 LARC UPVT 1015 LC-100 DBP8.(SHIPS) (BV2VFB)		75.000	3.000	.000	.000	SREF 20.3697 INCHES
LA-10 LARC UPVT 1015 LC-100 DBP8.(SHIPS) (BV2VFB)		78.000	3.000	.000	.000	VREF 16.5766 INCHES
LA-10 LARC UPVT 1015 LC-100 DBP8.(SHIPS) (BV2VFB)					.0000	INCHES
LA-10 LARC UPVT 1015 LC-100 DBP8.(SHIPS) (BV2VFB)					.0000	INCHES
LA-10 LARC UPVT 1015 LC-100 DBP8.(SHIPS) (BV2VFB)					.0169	SCALE



EFFECT OF FILLET ON LAT.-DIR. CHAR.(BV2VFB)

(B)MACH = 2.86

DATA SET SYMBOL	CONF IGURATION DESCRIPTION	LANDAF	DBETA	RUDFLR	ELEVTR	REFERENCE INFORMATION
(EP8002)	LA-10 LARC UPVT 1015 LO-100 CRB.(SHIPS) (BW2VFB)	45.800	3.000	.000	.000	SREF 171.4720 SQ.IN.
(EP8006)	LA-10 LARC UPVT 1015 LO-100 CRB.(SHIPS) (BW2VFB)	55.000	3.000	.000	.000	LREF 25.5100 INCHES
(EP8009)	DATA NOT AVAILABLE	75.000	3.000	.000	.000	DPREF 20.3597 INCHES
(EP8011)	LA-10 LARC UPVT 1015 LO-100 CRB.(SHIPS) (BW2VFB)	78.000	3.000	.000	.000	XREF 16.8366 INCHES
						YREF .0000 INCHES
						ZREF .0188 INCHES
						SCALE



EFFECT OF FILLET ON LAT.-DIR. CHAR.(BW2VFB)

(C)MACH = 3.96



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RP8002) LA-10 LARC UPVT 1015 LO-100 ORB (SHIPS) (BW2VFB) 50 IN.

(RP8001) LA-10 LARC UPVT 1015 LO-100 ORB (SHIPS) (BW2VFB) 25.510C INCHES

(RP8006) LA-10 LARC UPVT 1015 LO-100 ORB (SHIPS) (BW2VFB) 20.3597 INCHES

(RP8005) LA-10 LARC UPVT 1015 LO-100 ORB (SHIPS) (BW2VFB) 16.8356 INCHES

REFERENCE INFORMATION

SREF 171.4720 INCHES

LREF 25.510C INCHES

BREF 20.3597 INCHES

XMRP 16.8356 INCHES

YMRP .0000 INCHES

ZMRP .0000 INCHES

SCALE .0188 INCHES

ELEVTR .000

BETA 3.000

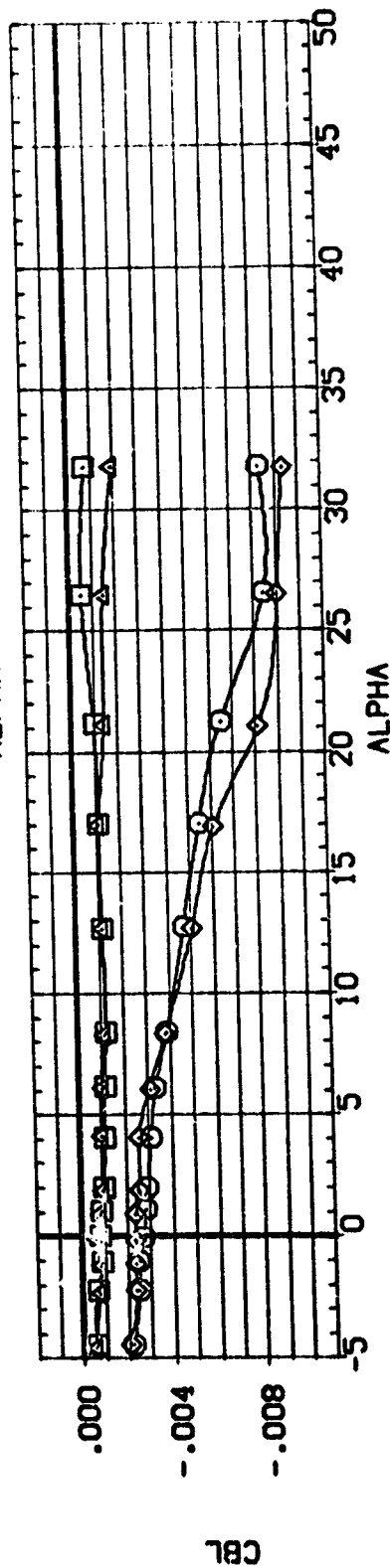
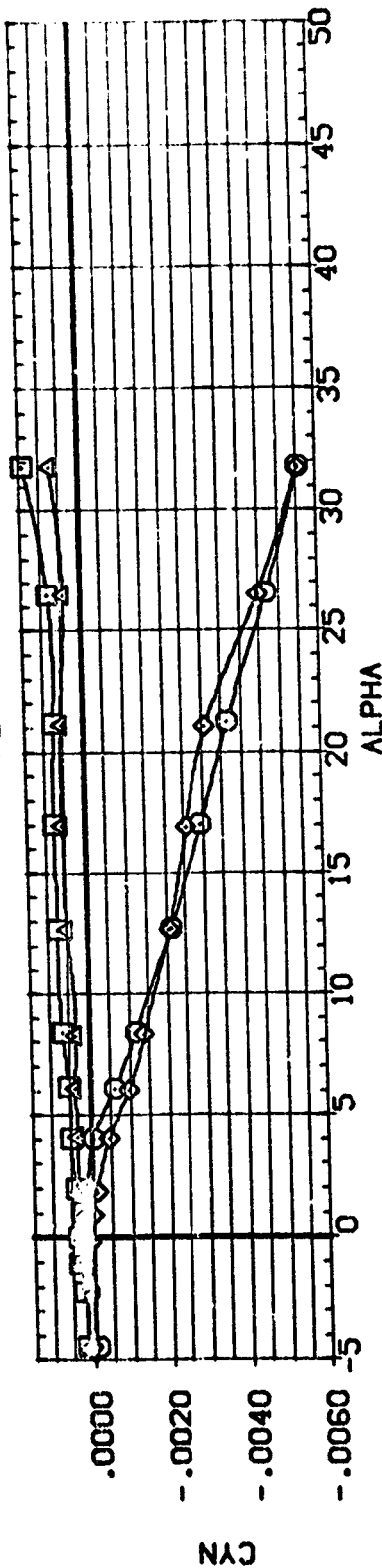
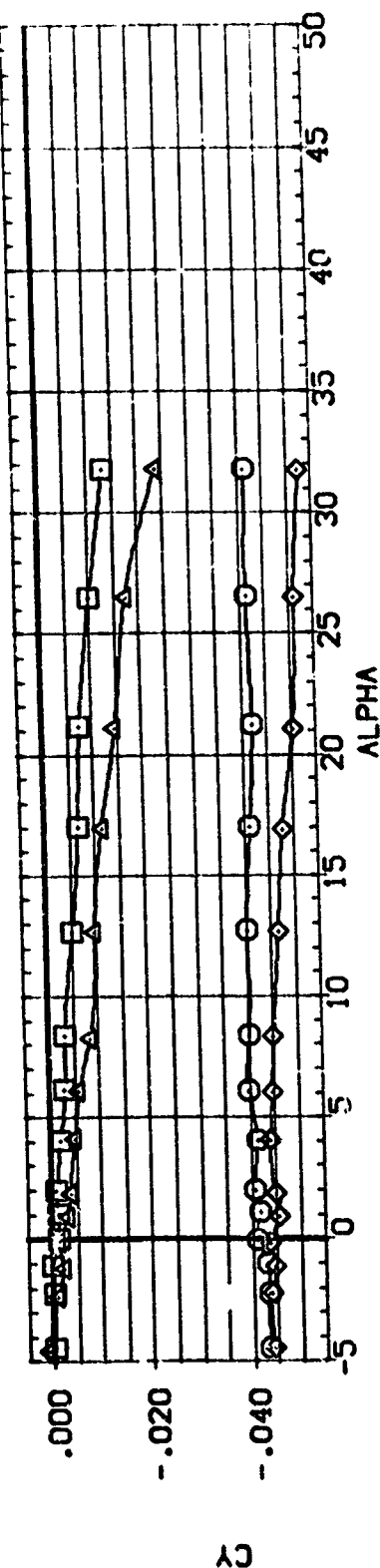
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LAMDIF 46.800

46.800

65.000

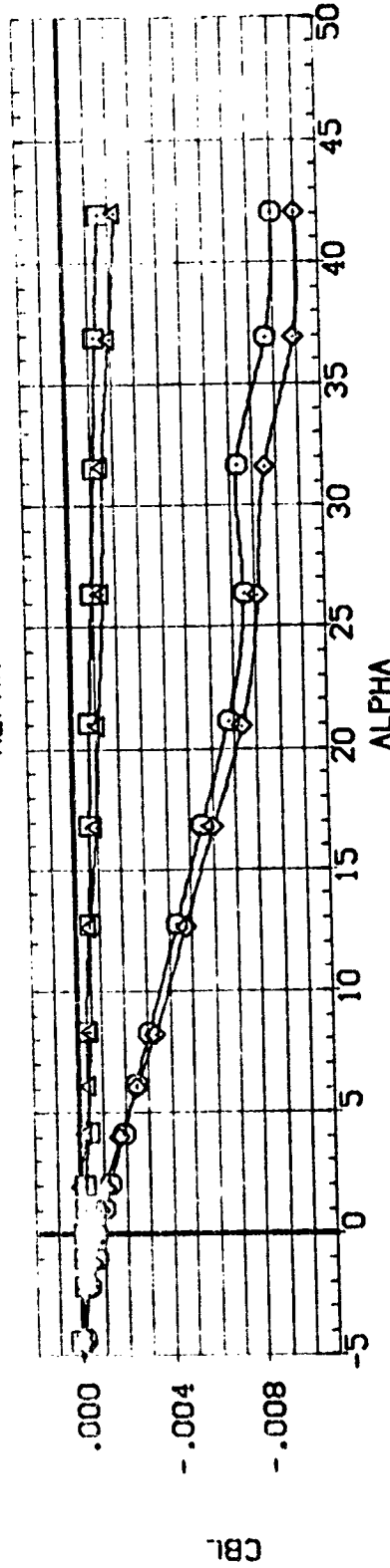
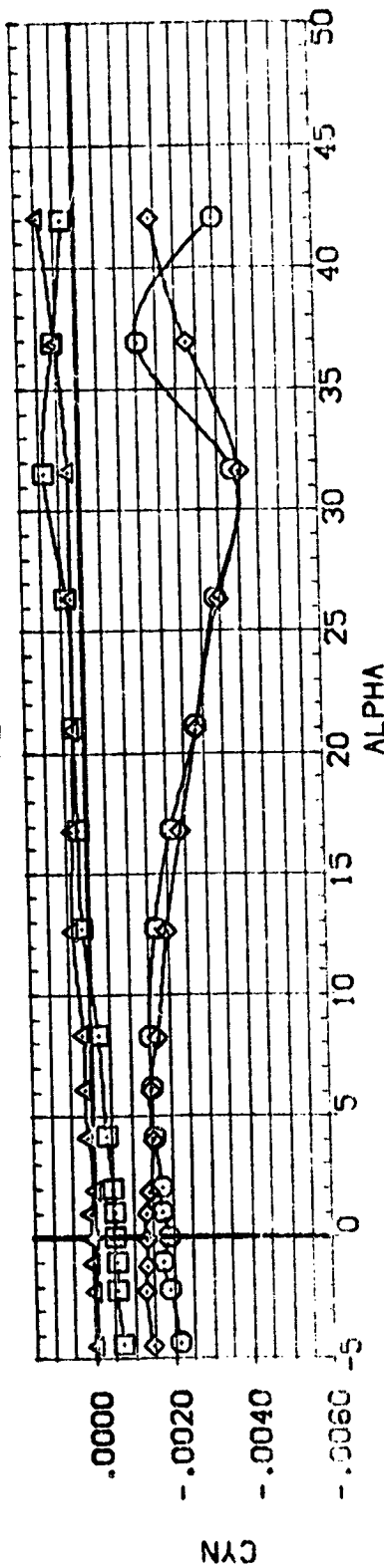
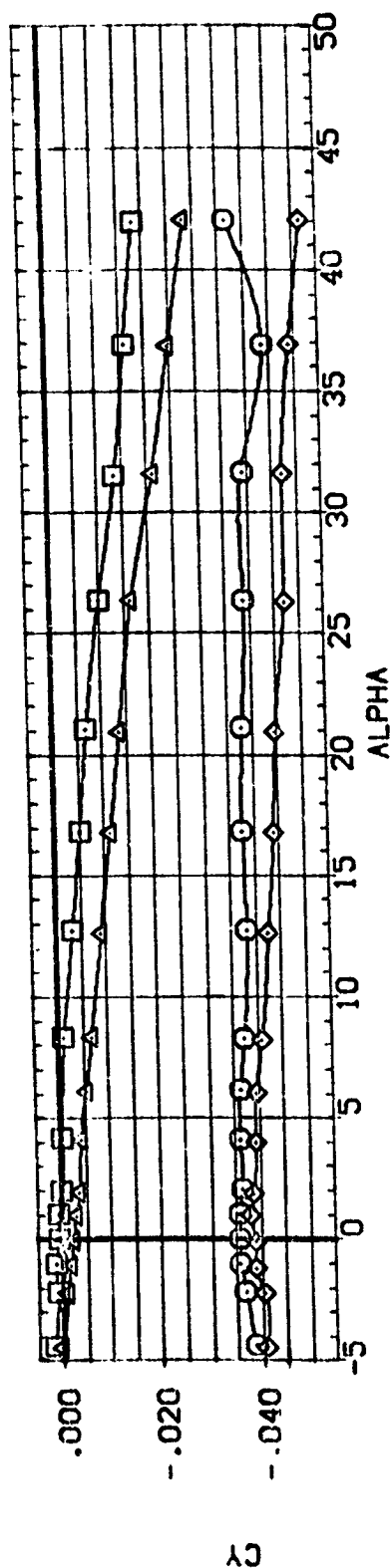
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EFFECT OF FILLET ON LAT.-DIR. CHAR.(BW2VFB)

(A)MACH = 2.36

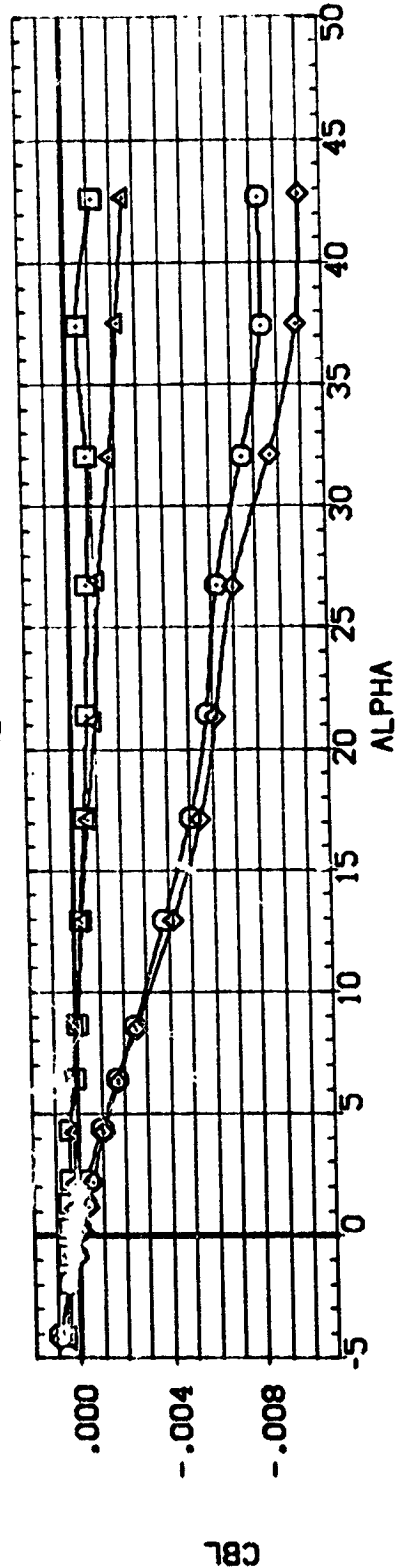
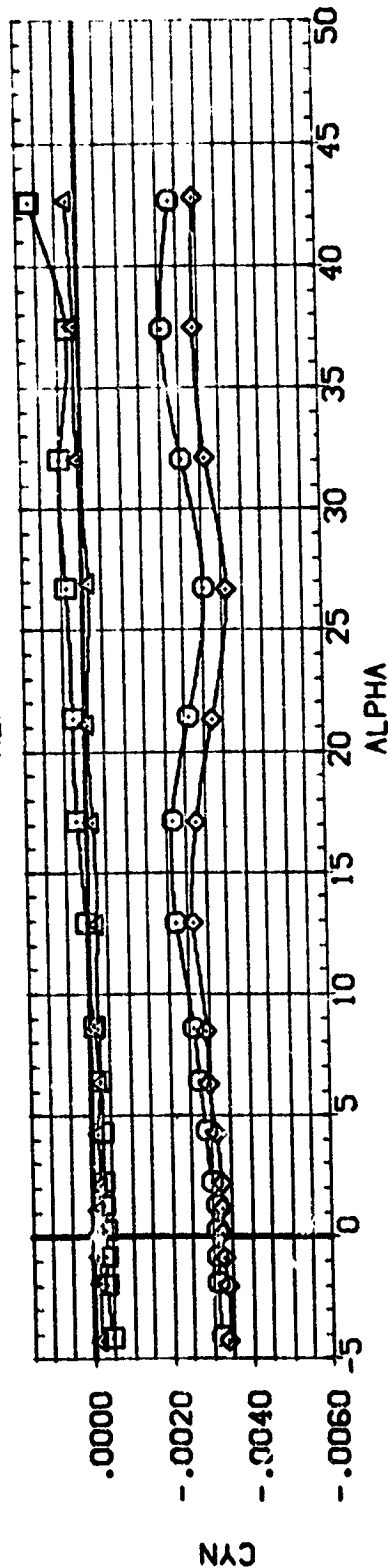
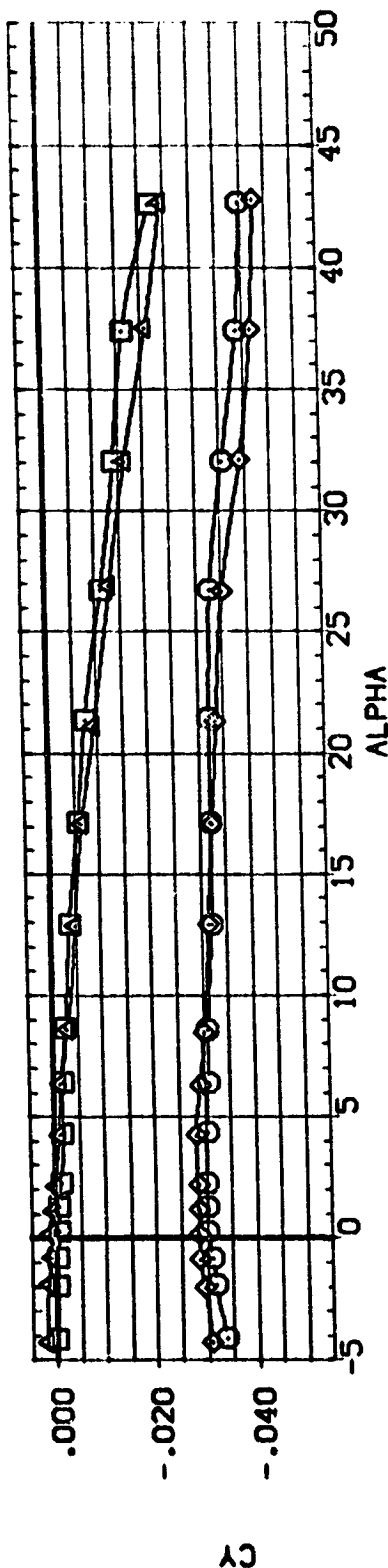
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LAMDAF	BETA	V'INGNO	ELEVTR	REFERENCE INFORMATION
(RP8002)	LA-10 LARC UPVT 1015 LG-100 098.(SHIPS) (BW2VFB)	46.800	3.000	2.000	.000	171.4720 50. IN.
(RP8001)	LA-10 LARC UPVT 1015 LG-100 098.(SHIPS) (BW2VFB)	46.800	3.000	2.000	.000	25.5100 INCHES
(RP8006)	LA-10 LARC UPVT 1015 LG-100 098.(SHIPS) (BW2VFB)	65.000	3.000	2.000	.000	20.3597 INCHES
(RP8005)	LA-10 LARC UPVT 1015 LG-100 098.(SHIPS) (BW2VFB)	65.000	.000	2.000	.000	16.8326 INCHES
						YMRP .0000 INCHES
						ZMRP .0000 INCHES
						SCALE .0188



EFFECT OF FILLET ON LAT.-DIR. CHAR.(BW2VFB)

(B)MACH = 2.86

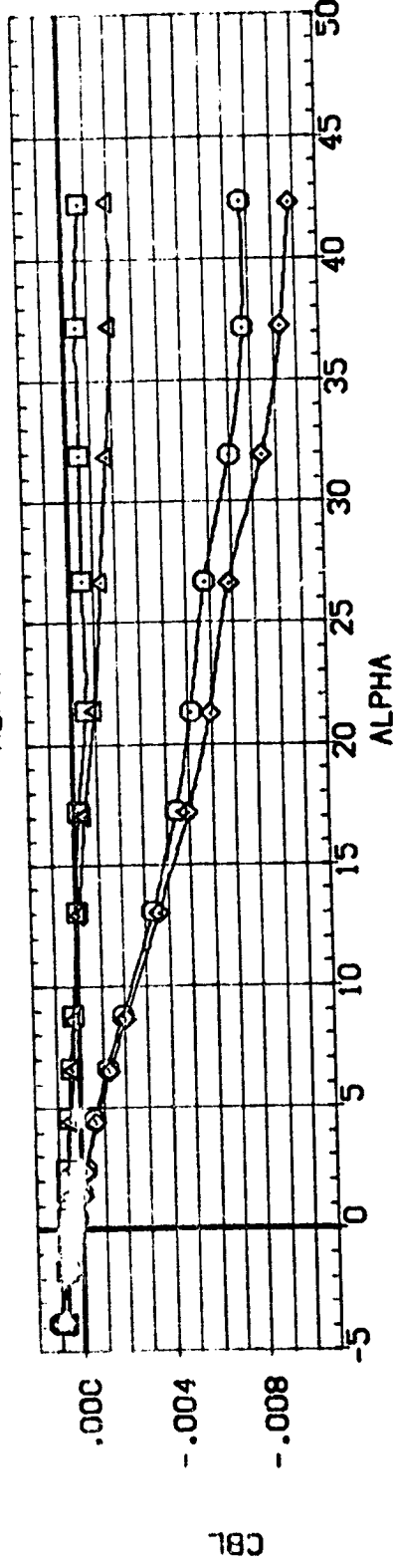
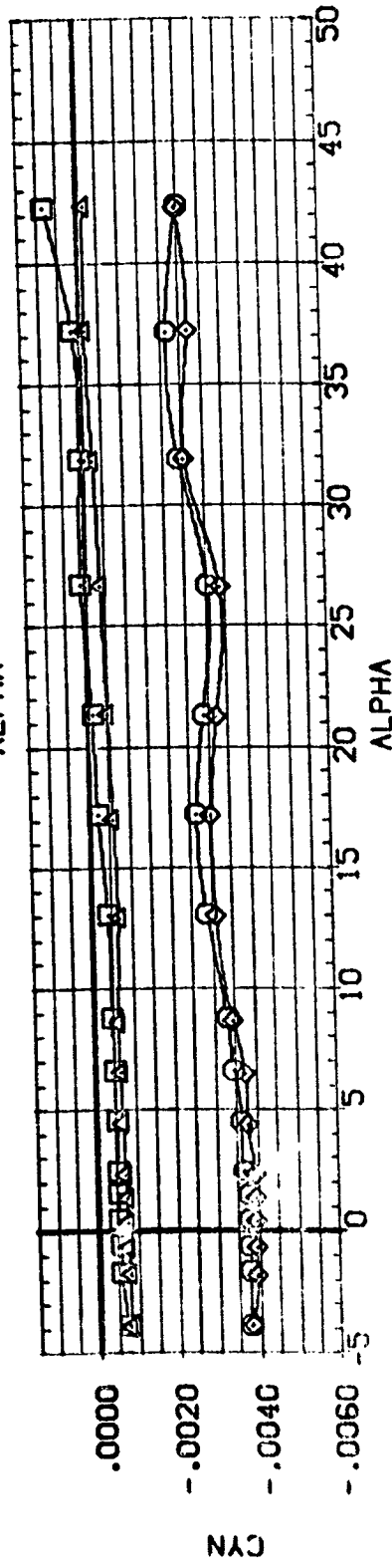
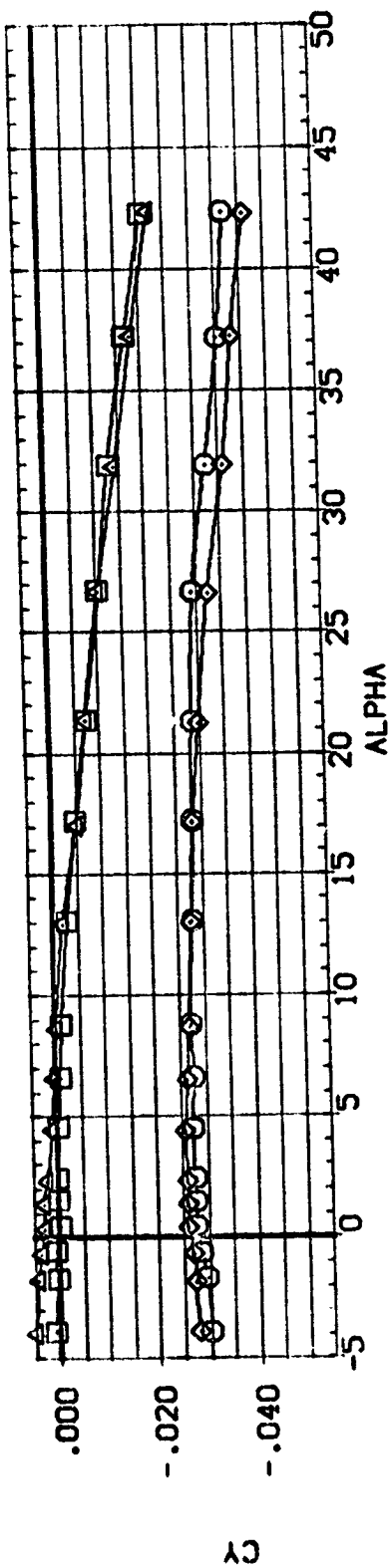
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(RP8002)	LA-10 LARC UPVT 1015 LC-100 08B.(SHIPS) (BW2VFB)	46.800	3.000	2.000	.000	SREF 171.4720 SQ.IN.
(RP8001)	LA-10 LARC UPVT 1015 LC-100 08B.(SHIPS) (BW2VFB)	46.800	.000	2.000	.000	LREF 25.5100 INCHES
(RP8006)	LA-10 LARC UPVT 1015 LC-100 08B.(SHIPS) (BW2VFB)	65.000	3.000	2.000	.000	BREF 20.3597 INCHES
(RP8005)	LA-10 LARC UPVT 1015 LC-100 08B.(SHIPS) (BW2VFB)	65.000	.000	2.000	.000	XREF 16.6366 INCHES
					.0000	YREF .0000 INCHES
					.0188	ZREF .0000 INCHES
						SCALE



EFFECT OF FILLET ON LAT.-DIR. CHAR.(BW2VFB)

(C)MACH = 3.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	BETA	VINGAO	ELEVTR	REFERENCE INFORMATION
(R8002)	LA-10 LARC UPVT 1015 LG-100 QRB (SHIPS) (BW2VFB)	46.800	3.000	2.000	.000	SREF 171.4720 50.100
(R8001)	LA-10 LARC UPVT 1015 LG-100 QRB (SHIPS) (BW2VFB)	46.800	3.000	2.000	.000	LREF 25.5100 10.000
(R8006)	LA-10 LARC UPVT 1015 LG-100 QRB (SHIPS) (BW2VFB)	65.000	3.000	2.000	.000	BREF 20.3597 10.000
(R8005)	LA-10 LARC UPVT 1015 LG-100 QRB (SHIPS) (BW2VFB)	65.000	3.000	2.000	.000	XREF 16.8366 10.000
						YREF .0000 10.000
						ZREF .0000 10.000
						SCALE .0188



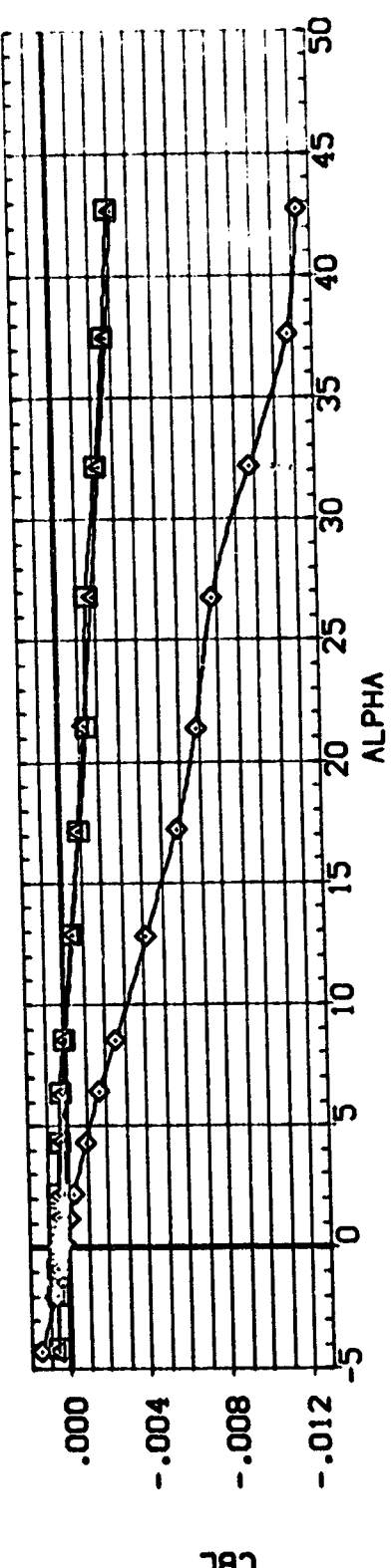
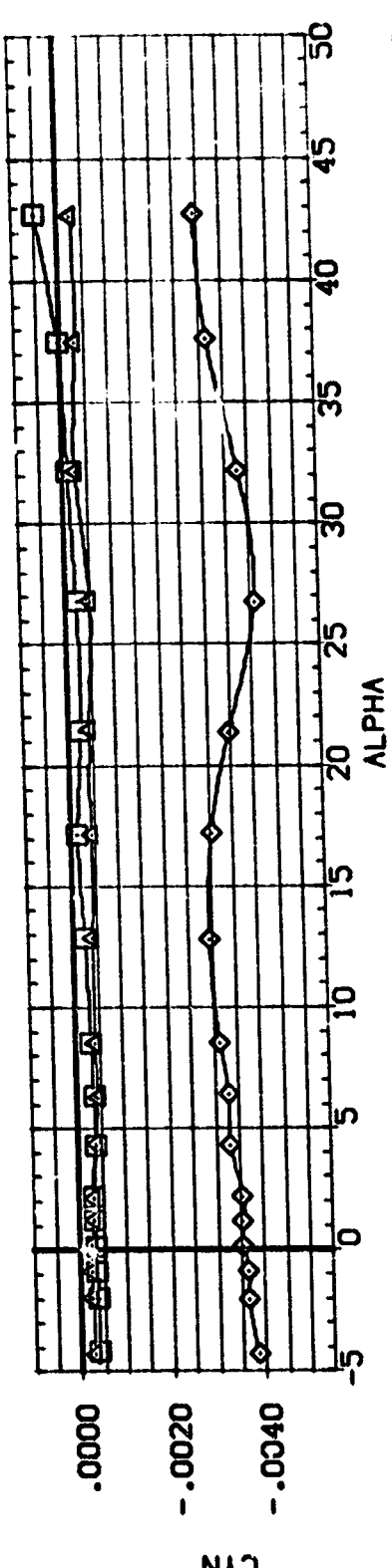
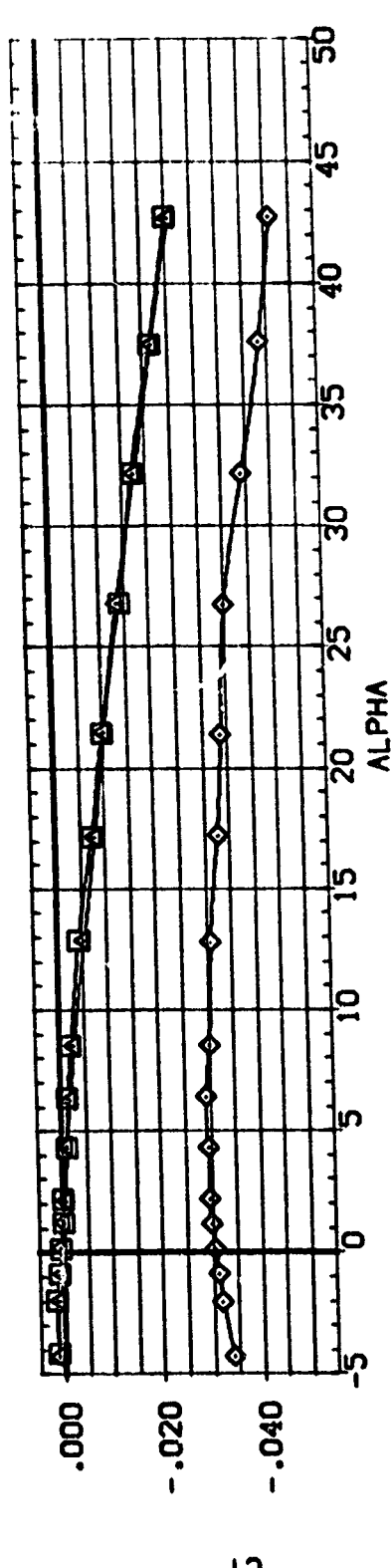
EFFECT OF FILLET ON LAT.-DIR. CHAR.(BW2VFB)

(D)MACH = 4.63









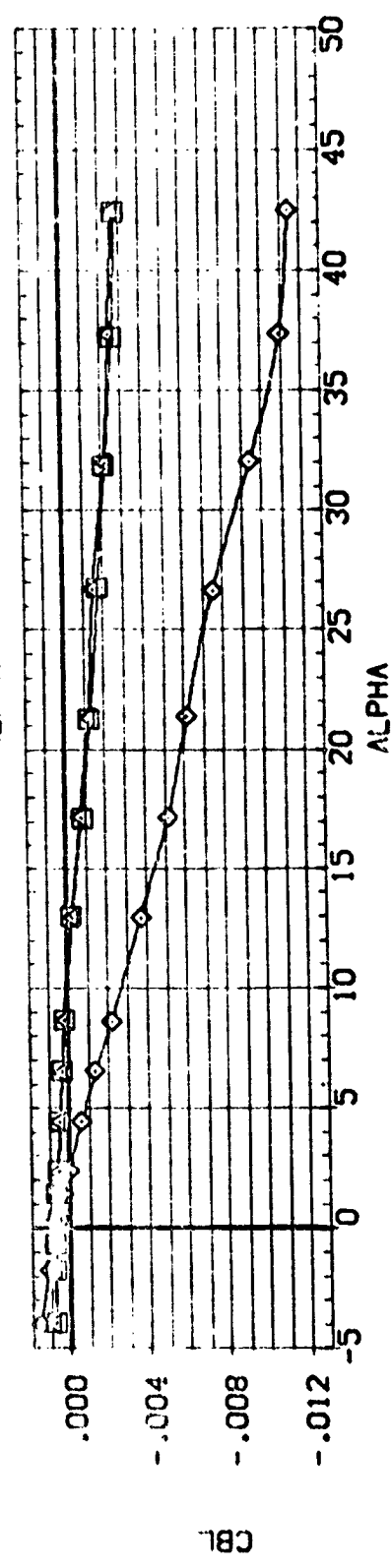
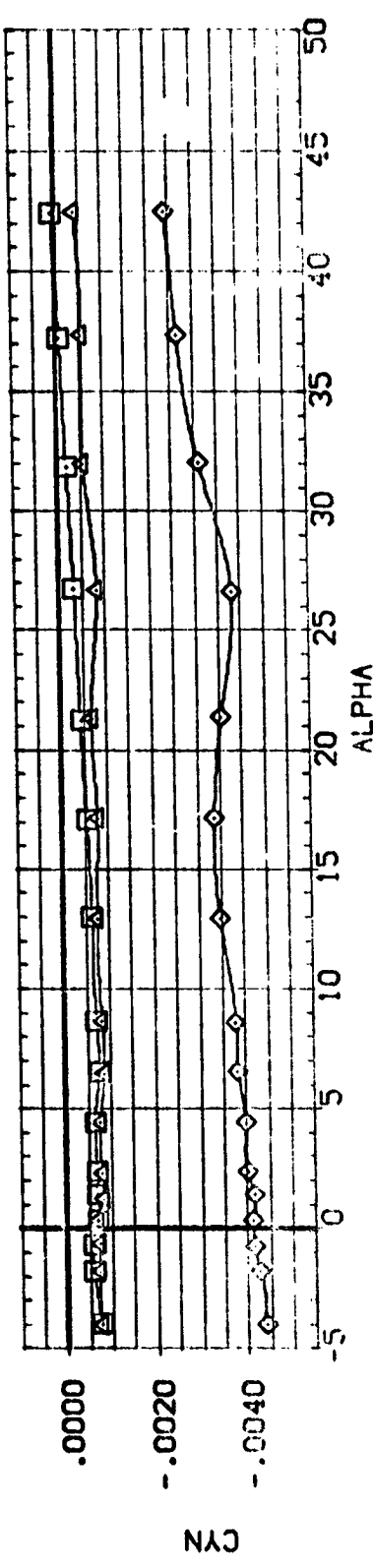
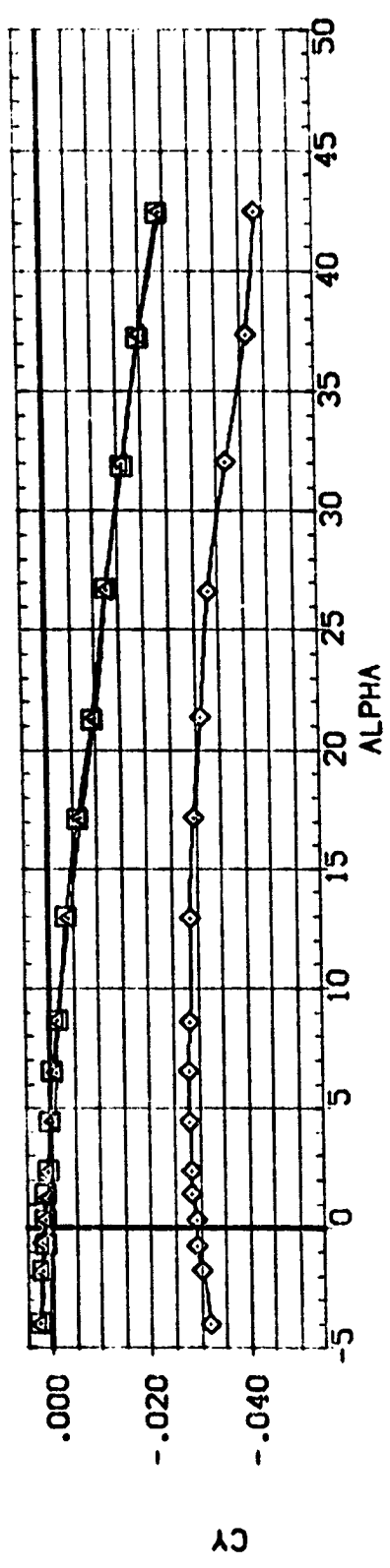
EFFECT OF FILLET ON LAT.-DIR. CHAR. (BW2VFB)

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(C)MACH = 3.96

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DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LAMDAF	BETA	VINGND	ELEVTR	REFERENCE INFORMATION
(RP8009)	DATA NOT AVAILABLE	75.000	3.000	2.000	.000	SREF 171.4720 SQ. IN.
(RP8008)	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS) (BW2VFB)	75.000	.000	2.000	.000	LREF 25.5100 INCHES
(RP8011)	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS) (BW2VFB)	78.000	3.000	2.000	.000	BREF 20.3597 INCHES
(RP8010)	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS) (BW2VFB)	78.000	.000	2.000	.000	XREF 16.8356 INCHES
					.000	YREF .0000 INCHES
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						SCALE



EFFECT OF FILLET ON LAT.-DIR. CHAR. (BW2VFB)

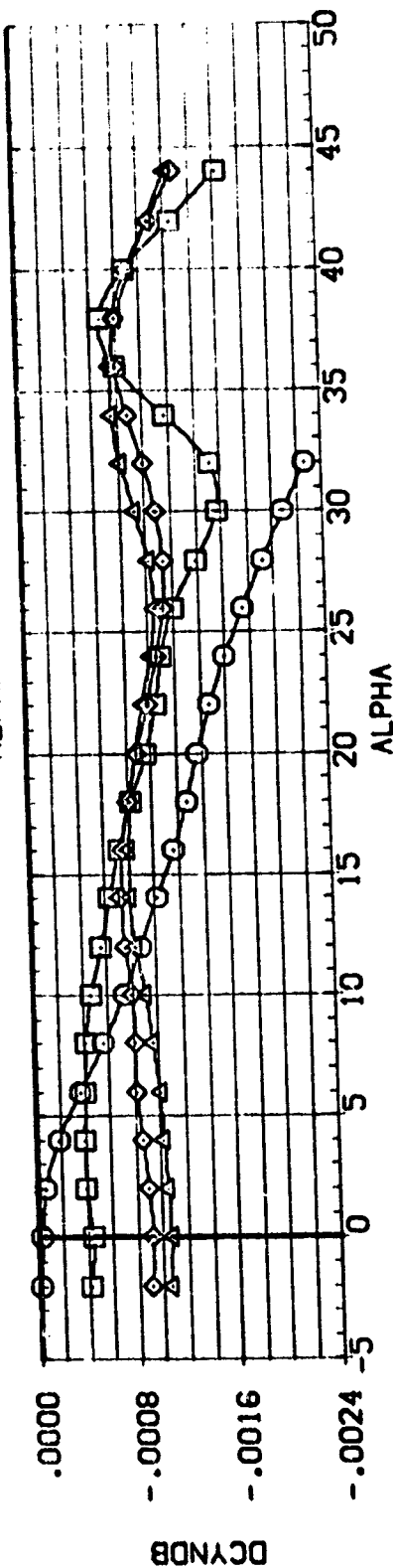
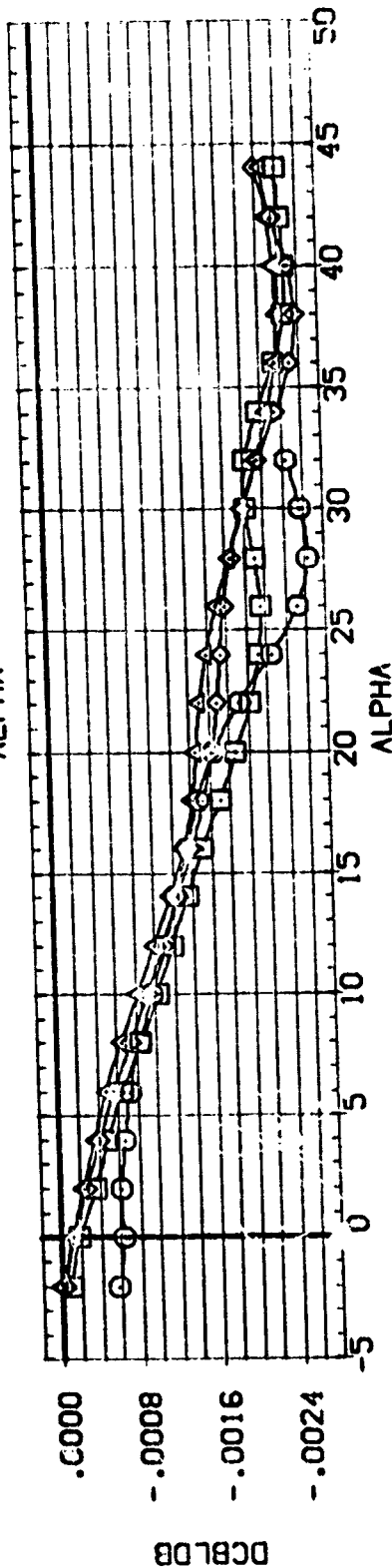
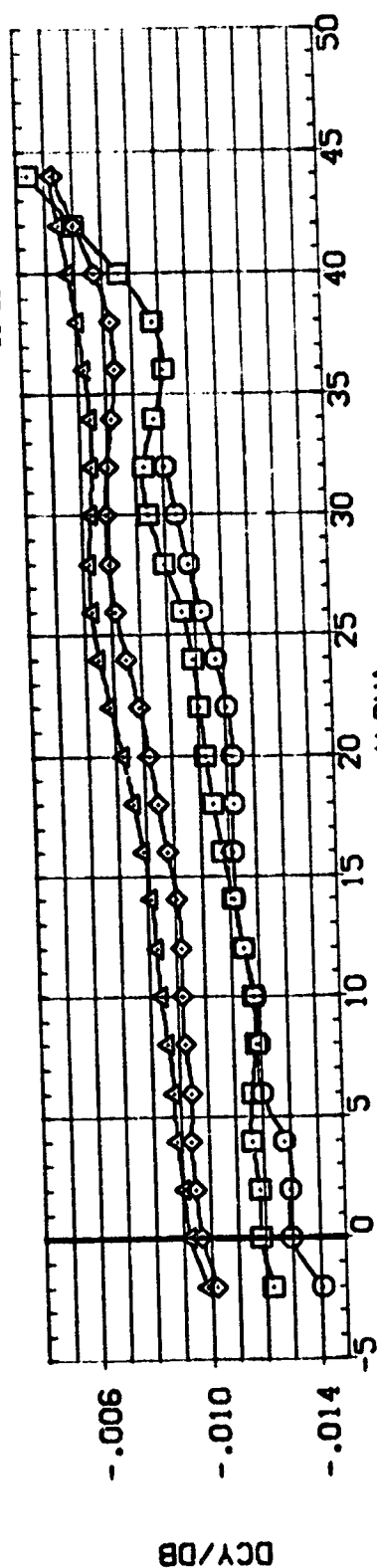
# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB) (EP80002)

SYMBOL  
○  
□  
◇  
△

MACH  
2.360  
2.860  
3.960  
4.630

PARAMETRIC VALUES  
DBETA 3.000 VING10 2.000  
LAWAF 46.800 ELEVTR .000  
BOFLAP .000 RUOFLR .000

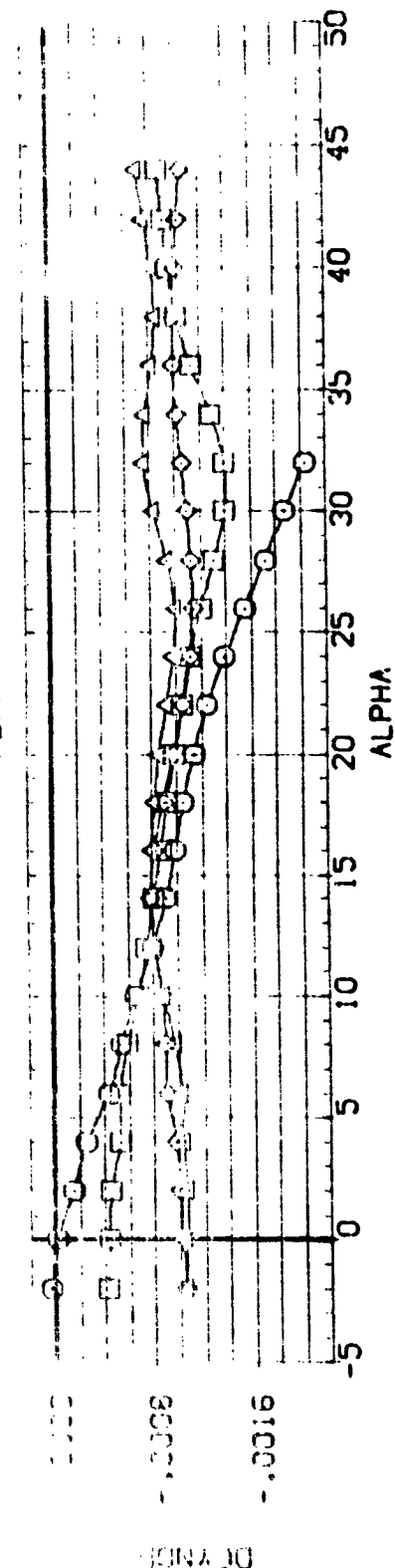
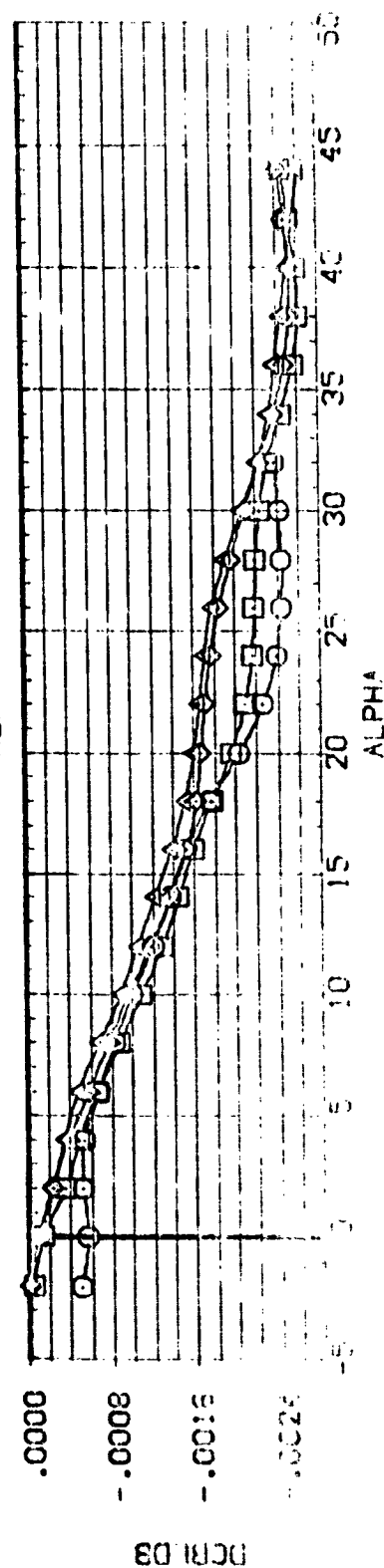
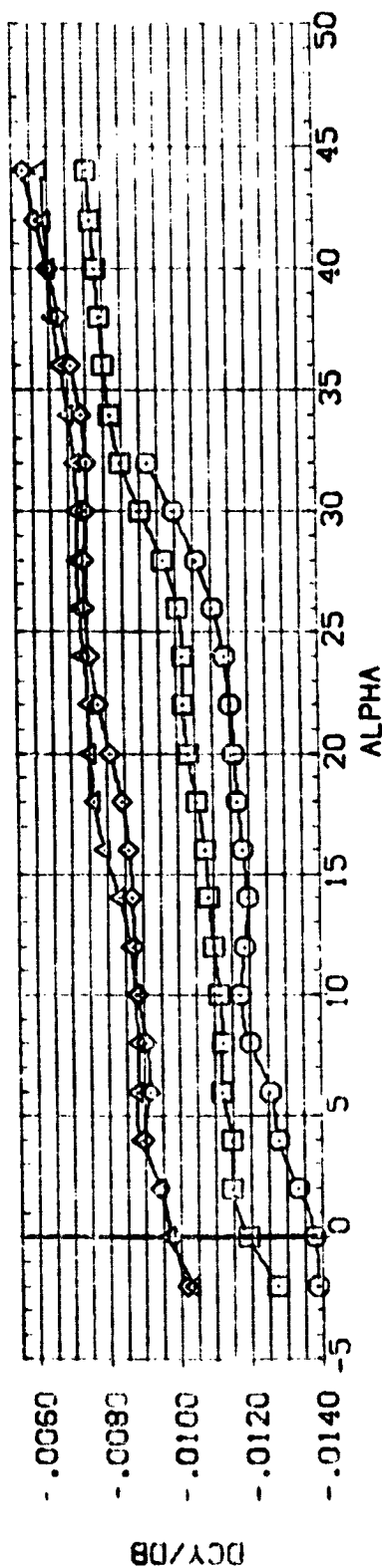
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YREF .0000 INCHES  
ZREF .0000 INCHES  
SCALE .0188



EFFECT OF MACH NO. ON LAT.-DIR. CHAR. (BW2VFB)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB)(EP8006)

SYMBOL	MACH	PARAMETRIC VALUES				REFERENCE INFORMATION			
		DBETA	3.000	VINGNO	2.000	SREF	171.4720	SG.IN.	
○	2.350	LAMDAF	65.000	ELEVTR	.000	LREF	25.5100	INCHES	
□	2.850	BOFLAP	.000	RJOF LR	.000	BREF	20.3597	INCHES	
◇	3.950					XPRP	15.8366	INCHES	
△	4.630					YPRP	.0000	INCHES	
						ZPRP	.0000	INCHES	
						SCALE	.0189	SCALE	



EFFECT OF MACH NO. ON LAT.-DIR. CHAR. (BW2VFB)

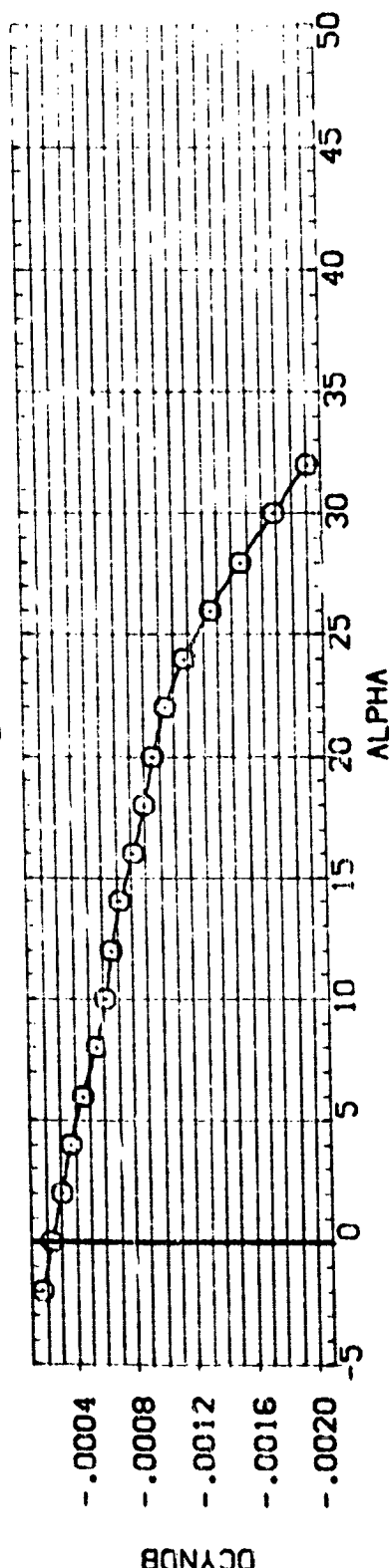
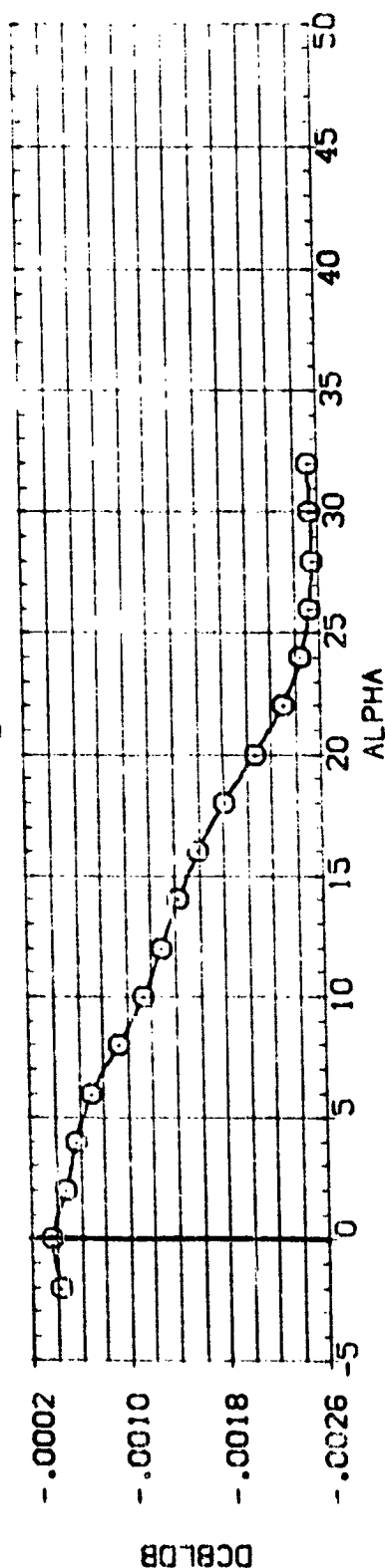
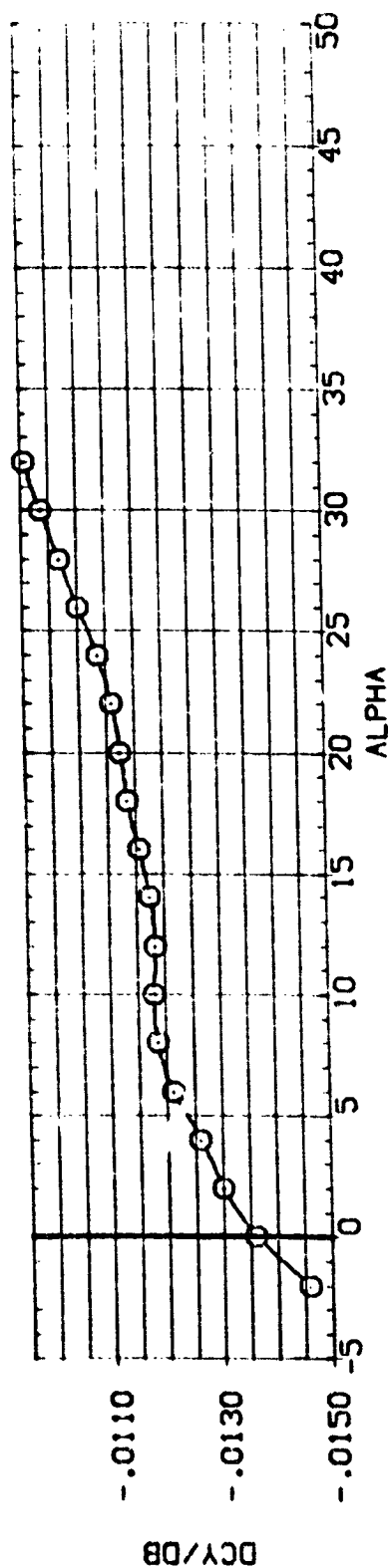
# LA-10 LARC UPWT 1015 L0-100 GR8.(SHIPS) (BW2VFB)(EP8009)

SYMBOL  
O

MACH  
2.350

PARAMETRIC VALUES  
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LWDAF 75.000 ELEVTR .000  
BOFLAP .000 RUDFLR .000

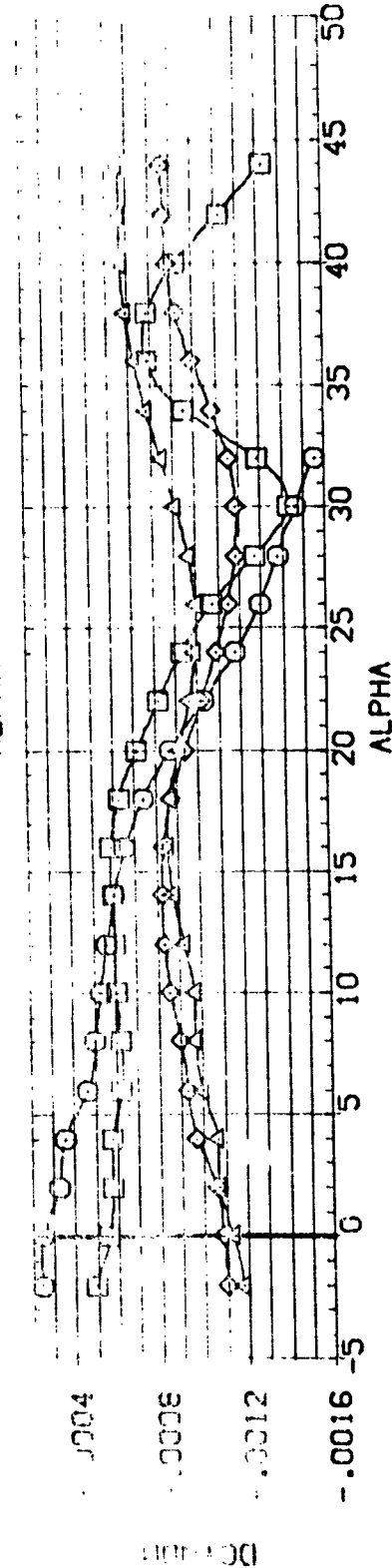
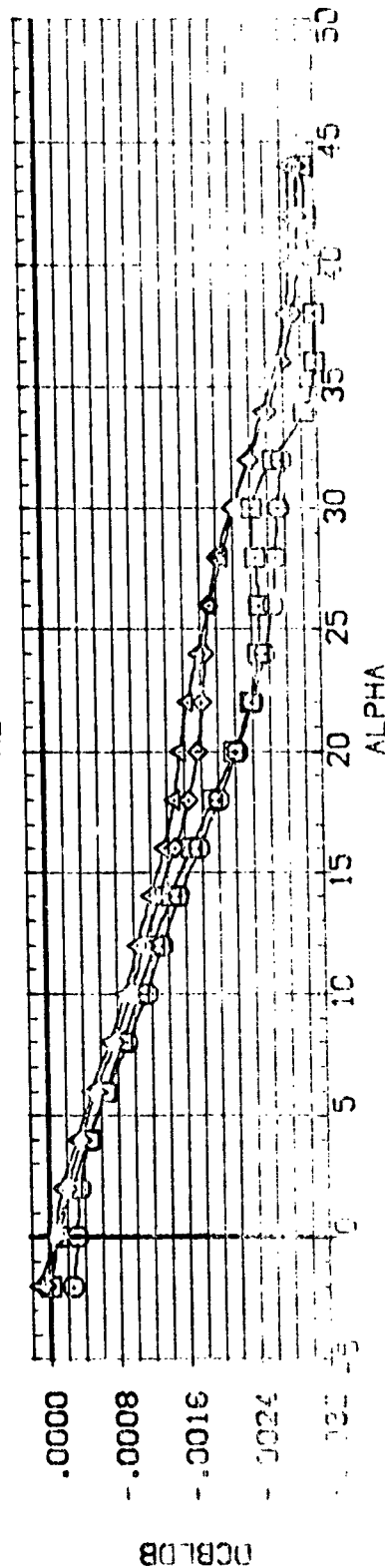
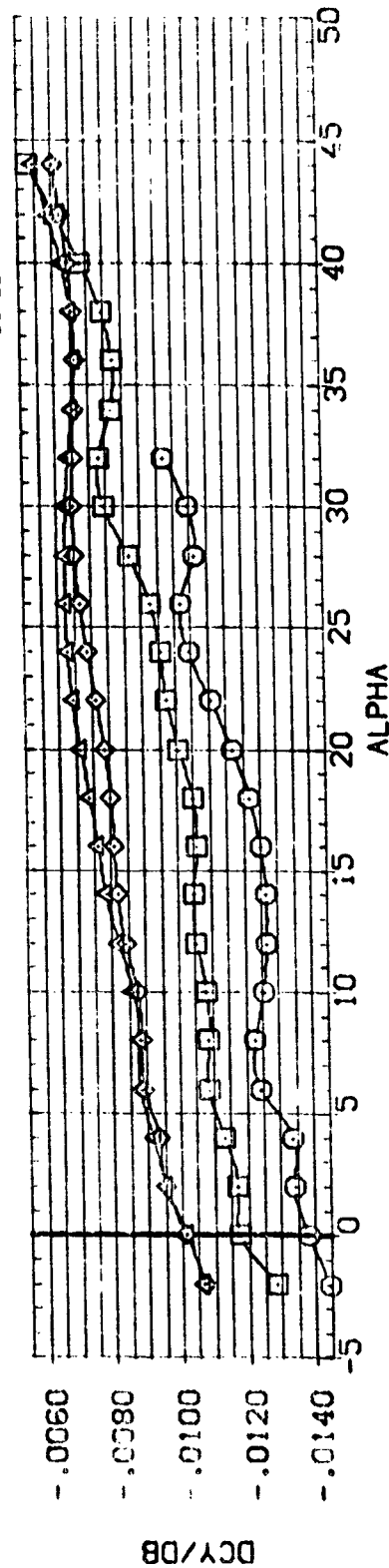
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LREF 25.5100 INCHES  
BREF 20.3597 INCHES  
XMRP 16.8366 INCHES  
YMRP .0000 INCHES  
ZMRP .0000 INCHES  
SCALE .0188



EFFECT OF MACH NO. ON LAT.-DIR. CHAR. (BW2VFB)

# LA-10 LARC UPWT 10.5 L3-100 ORB.(SHIPS) (BW2VFB)(EP8011)

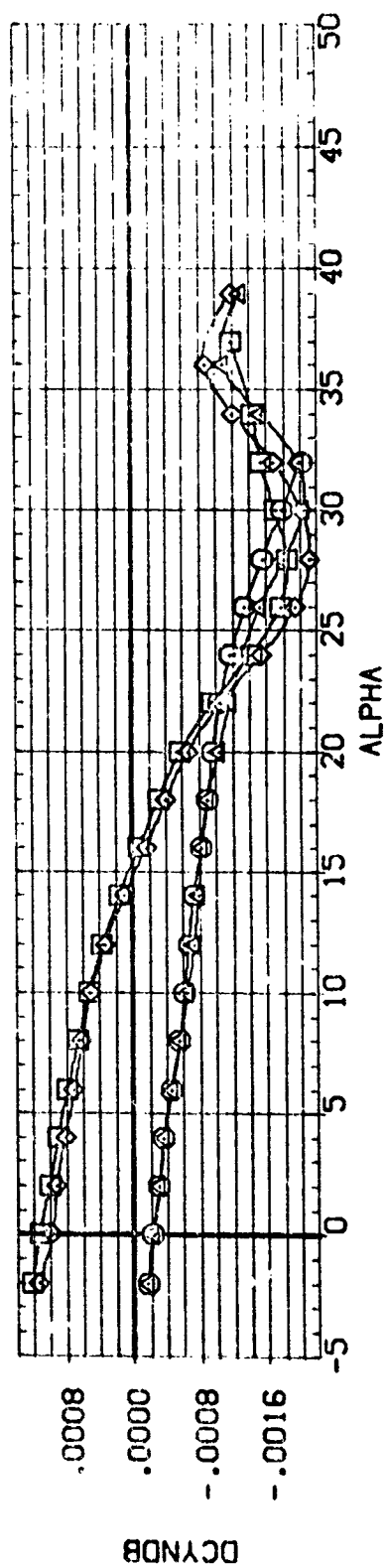
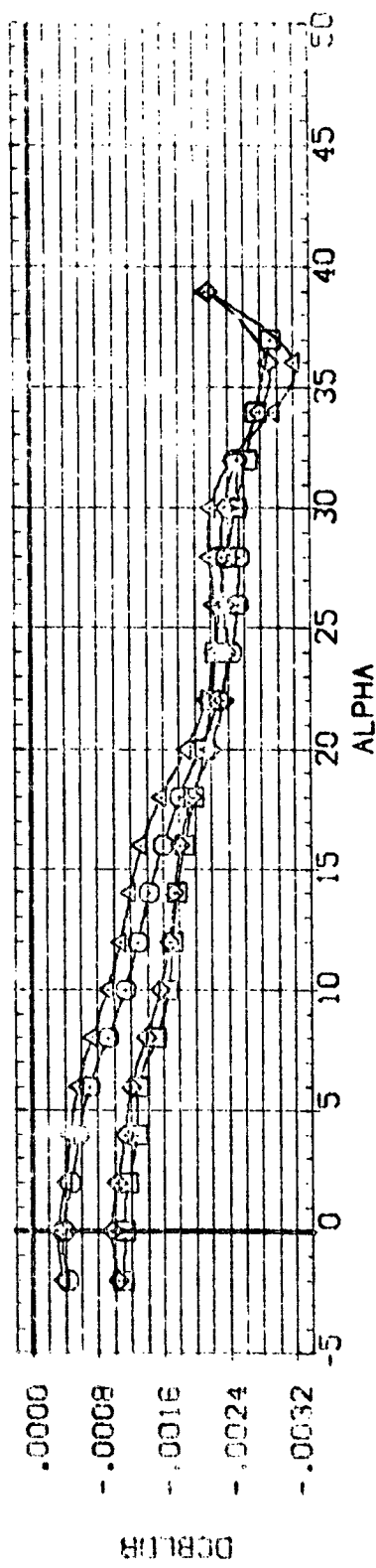
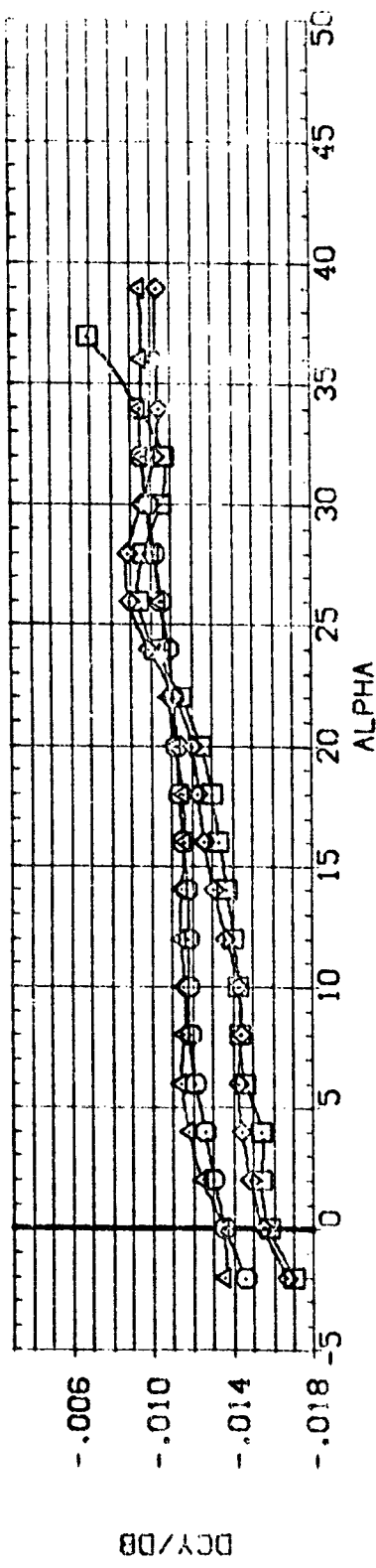
SYMBOL	MACH	DBETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	2.360	3.000	VINGNO 2.000	SREF 171.4720 SQ.IN.
□	2.850	78.000	ELEVTR .000	LREF 25.5100 INCHES
◇	3.560	.000	RJDFLR .000	BREF 20.3597 INCHES
△	4.530			XREF 16.8366 INCHES
				YREF .0000 INCHES
				ZREF .0188 INCHES
				SCALE



EFFECT OF MACH NO. ON LAT.-DIR. CHAR. (BW2VFB)



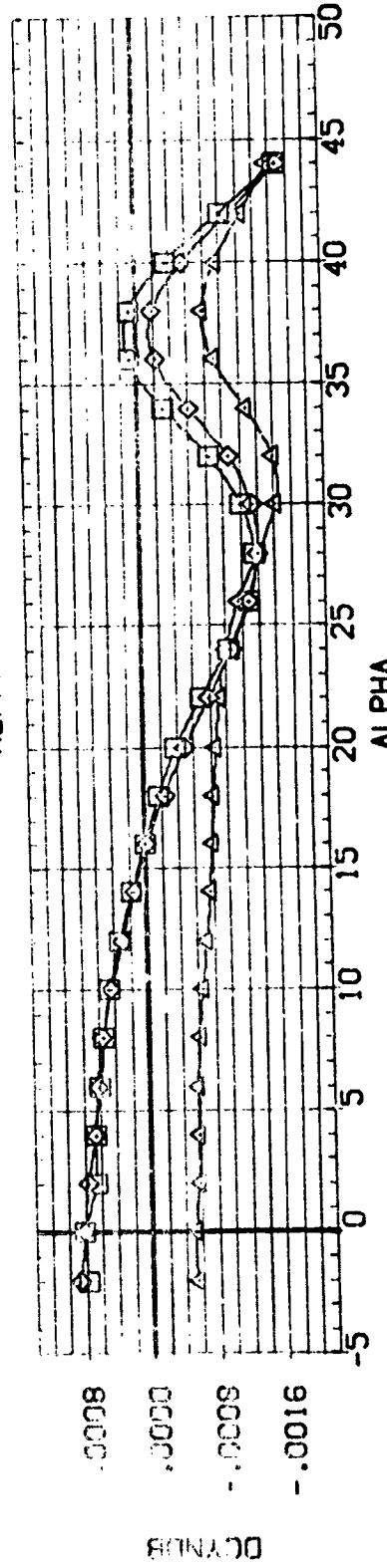
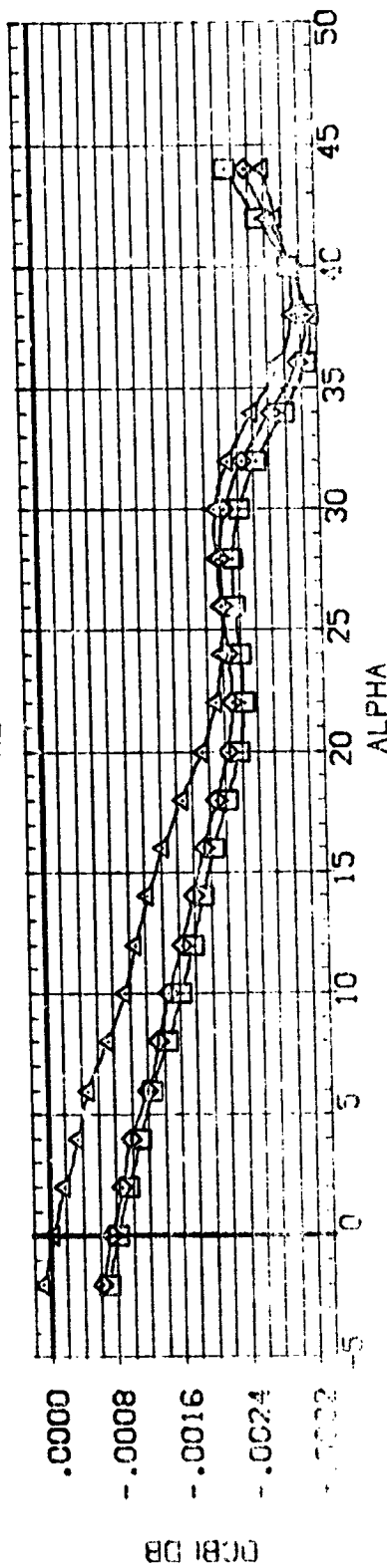
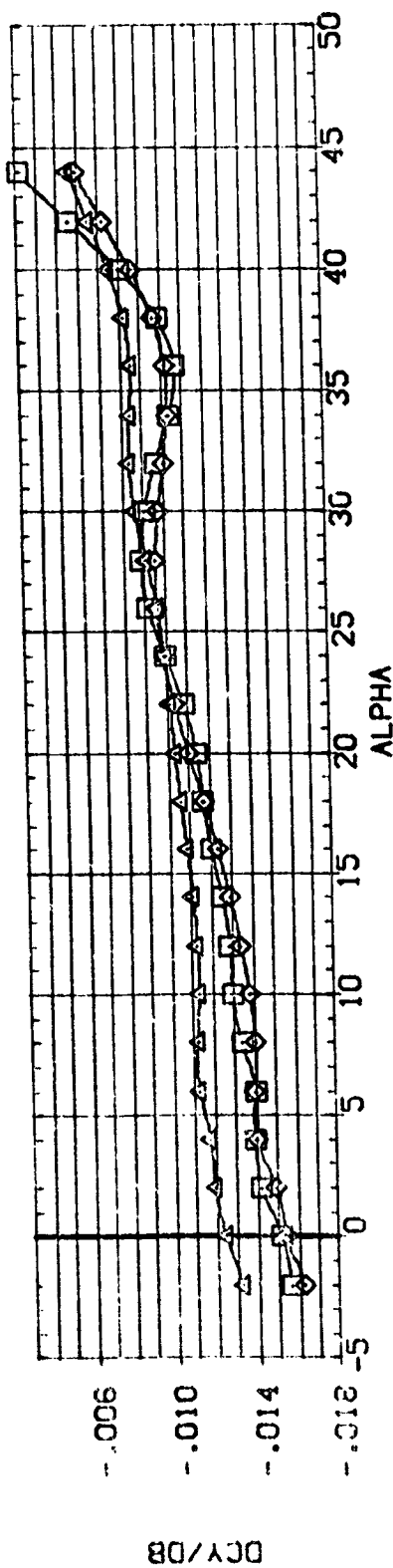
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	DBETA	RUDFLR	ELEVTR	REFERENCE INFORMATION
(EP8009)	LA-10 LARC UPNT 1015 LG-100 DBE. (SHIPS) (BVZVFB)	75.000	3.000	.000	.000	SREF 171.472
(EP8013)	LA-10 LARC UPNT 1015 LG-100 DBE. (SHIPS) (BVZVFB)	75.000	3.000	.000	.000	LREF 25.510
(EP8015)	LA-10 LARC UPNT 1015 LG-100 DBE. (SHIPS) (BVZVFB)	75.000	3.000	40.000	-10.000	BREF 20.300
(EP8017)	LA-10 LARC UPNT 1015 LG-100 DBE. (SHIPS) (BVZVFB)	75.000	3.000	.000	-10.000	ZMRP 15.8366
						YMRP .0000
						SCALE .0158



LAT.-DIR. CHAR WITH RUDDER FLARE (FILLET ANGLE=75 DEG.)

(A)MACH = 2.36

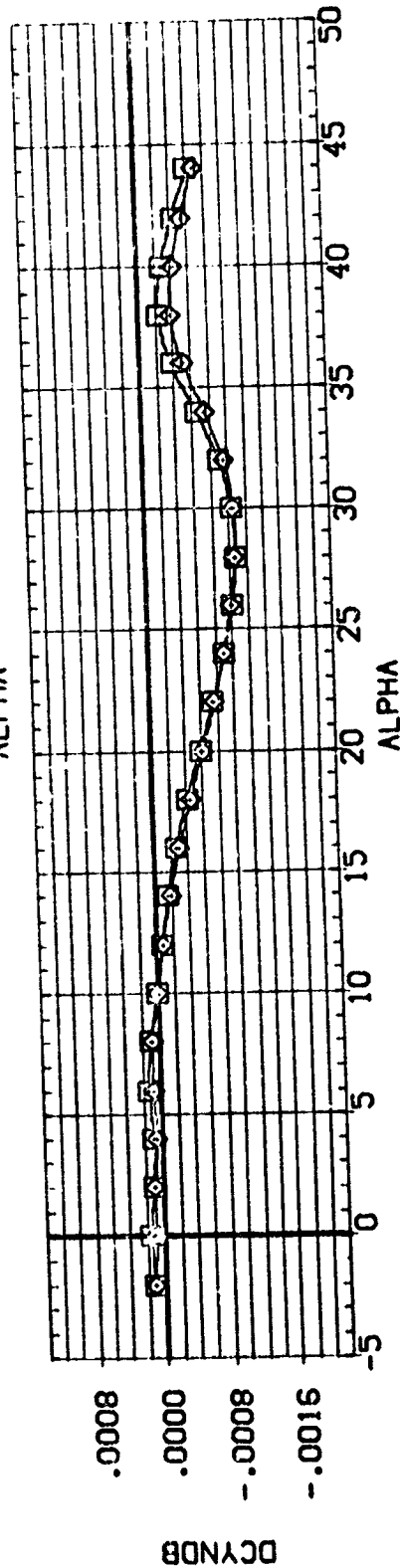
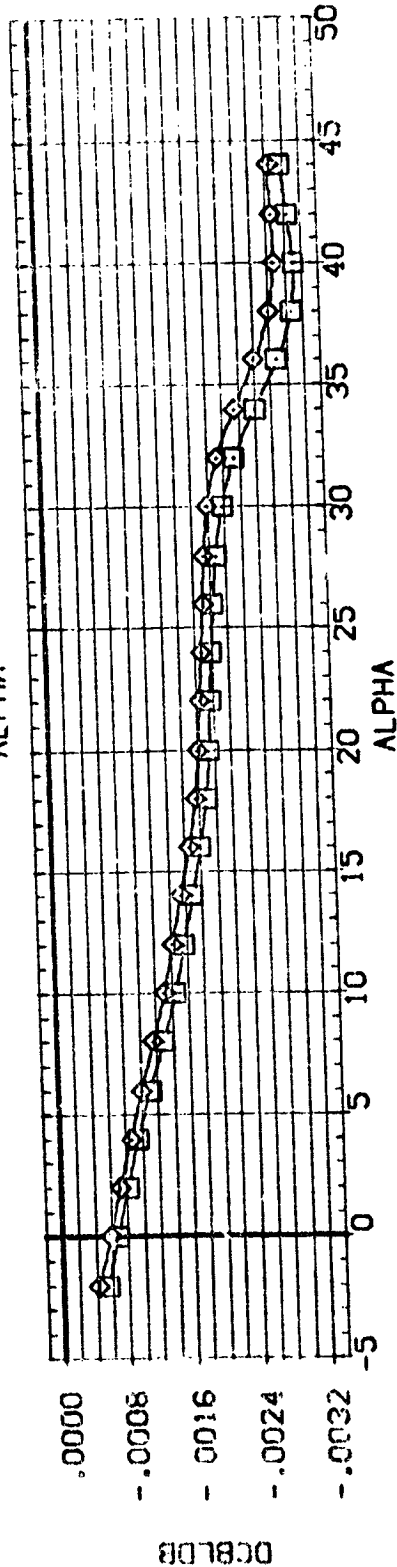
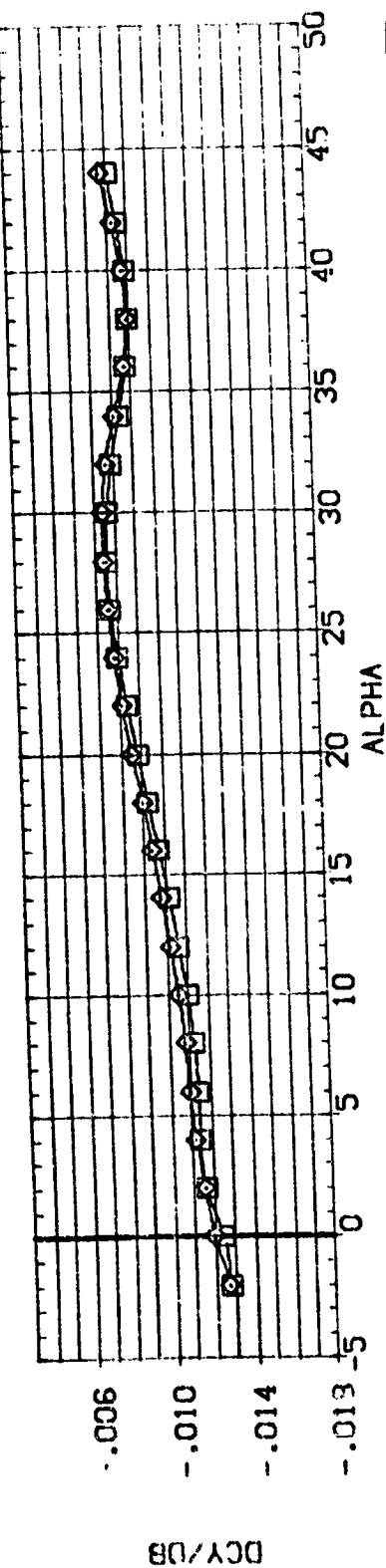
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LAYDAF	DBETA	RUDFLR	ELEVTR	REFERENCE INFORMATION
(EP8009)	DATA NOT AVAILABLE	75.000	3.000	.000	.000	SREF 171.4720 SU.IN.
(EP8013)	LA-10 LARC UPVT 1015 LO-100 088.(SHIPS) (BVZVFB)	75.000	3.000	.000	.000	LREF 25.5100 INCHES
(EP8015)	LA-10 LARC UPVT 1015 LO-100 088.(SHIPS) (BVZVFB)	75.000	3.000	.000	-10.000	BREF 20.3597 INCHES
(EP8017)	LA-10 LARC UPVT 1015 LO-100 088.(SHIPS) (BVZVFB)	75.000	3.000	.000	-10.000	XREF 16.6366 INCHES
						YREF .0000 INCHES
						ZREF .0000 INCHES
						SCALE .0183



LAT.-DIR. CHAR WITH RUDDER FLARE (FILLET ANGLE=75 DEG.)

(B)MACH = 2.86

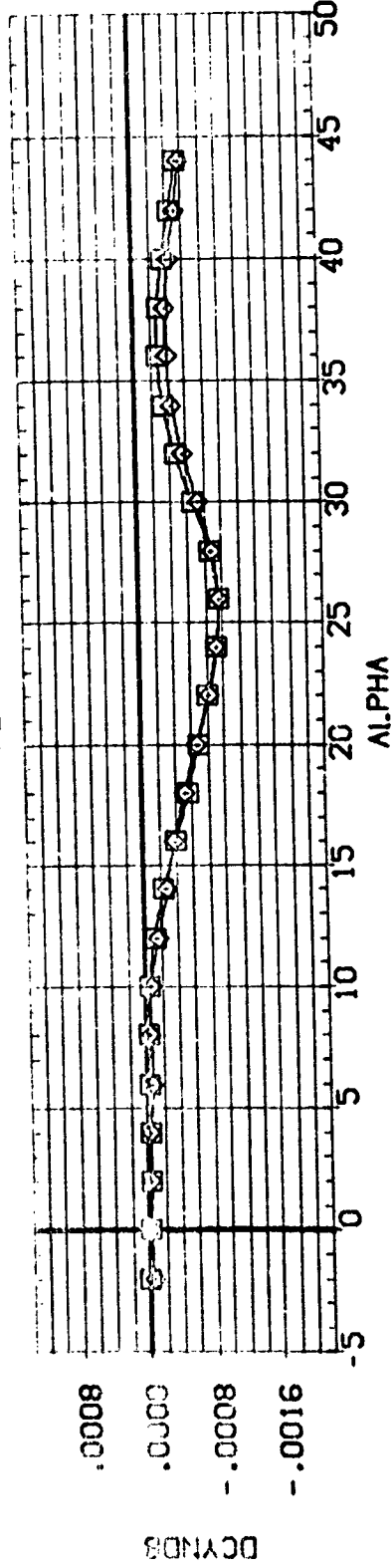
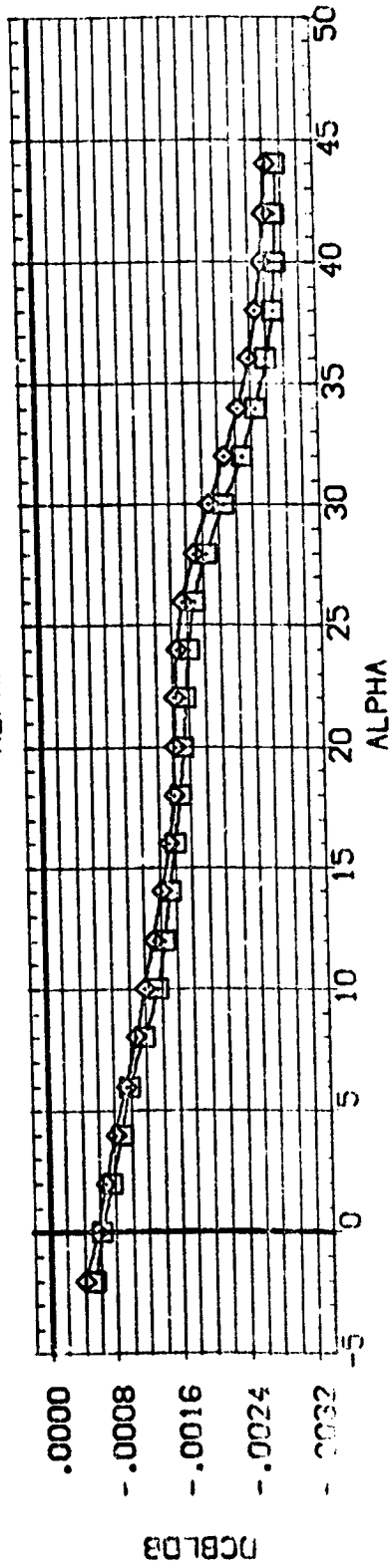
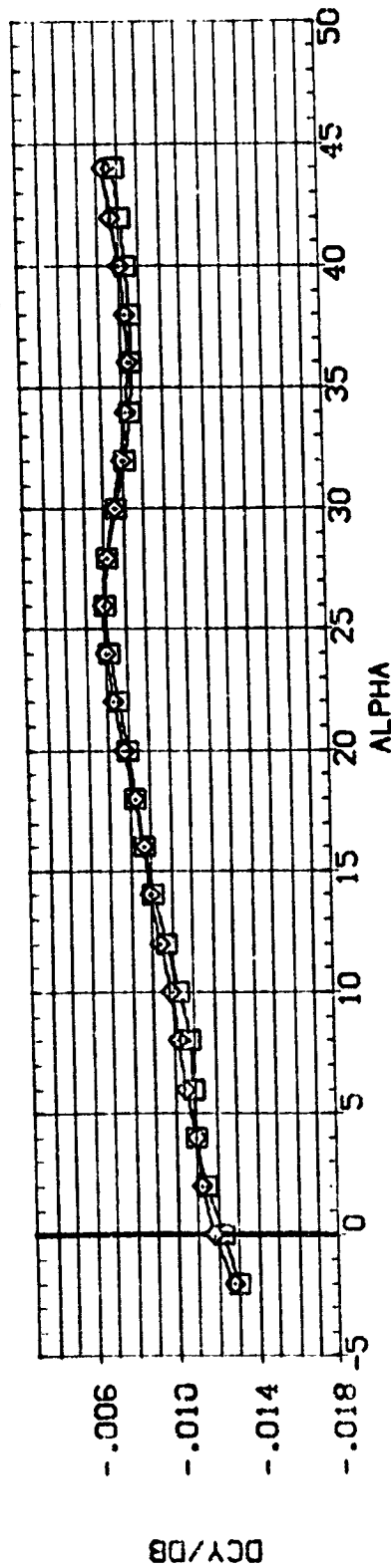
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDW	DBETA	RUOFLR	ELEVTR	REFERENCE INFORMATION
(EP8009)	DATA NOT AVAILABLE	75.000	3.000	.000	.000	SREF 171.4720 SQ. IN.
(EP8013)	LA-10 LARC UPVT 1015 LO-100 DB8. (SHIPS) (BV2VFB)	75.000	3.000	40.000	.000	LREF 25.5100 INCHES
(EP8015)	LA-10 LARC UPVT 1015 LO-100 DB8. (SHIPS) (BV2VFB)	75.000	3.000	40.000	-10.000	BREF 20.3597 INCHES
(EP8017)	DATA NOT AVAILABLE	75.000	3.000	.000	-10.000	XPRP 16.8366 INCHES
						YPRP .0000 INCHES
						ZPRP .0000 INCHES
						SCALE .0188



LAT.-DIR. CHAR WITH RUDDER FLARE (FILLET ANGLE=75 DEG.)

(C)MACH = 3.96

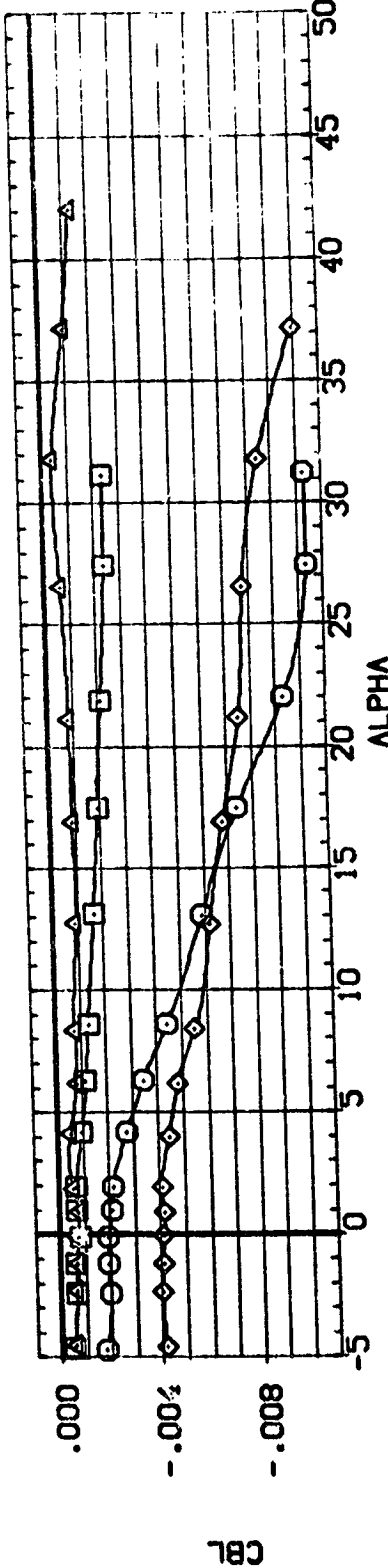
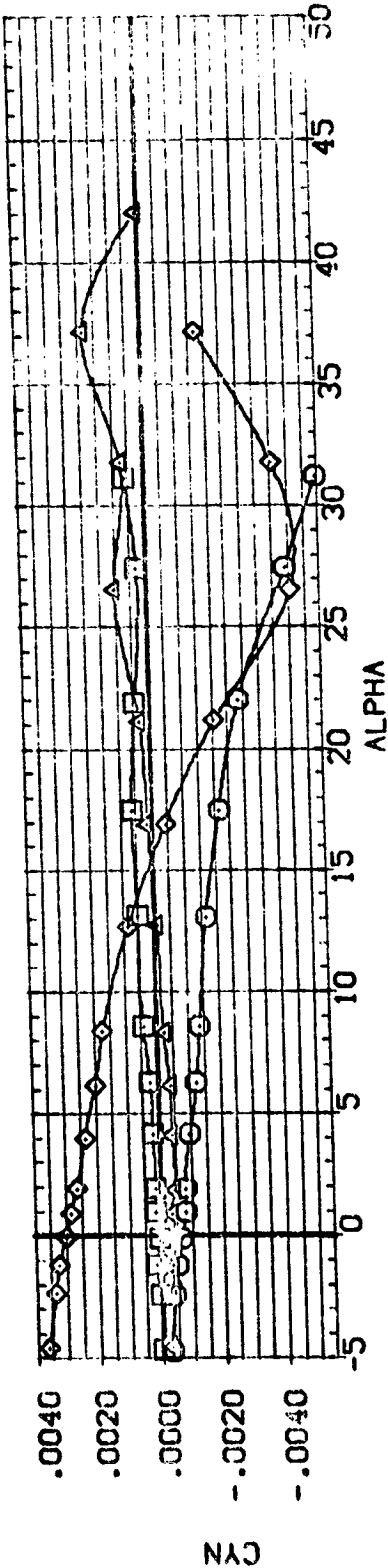
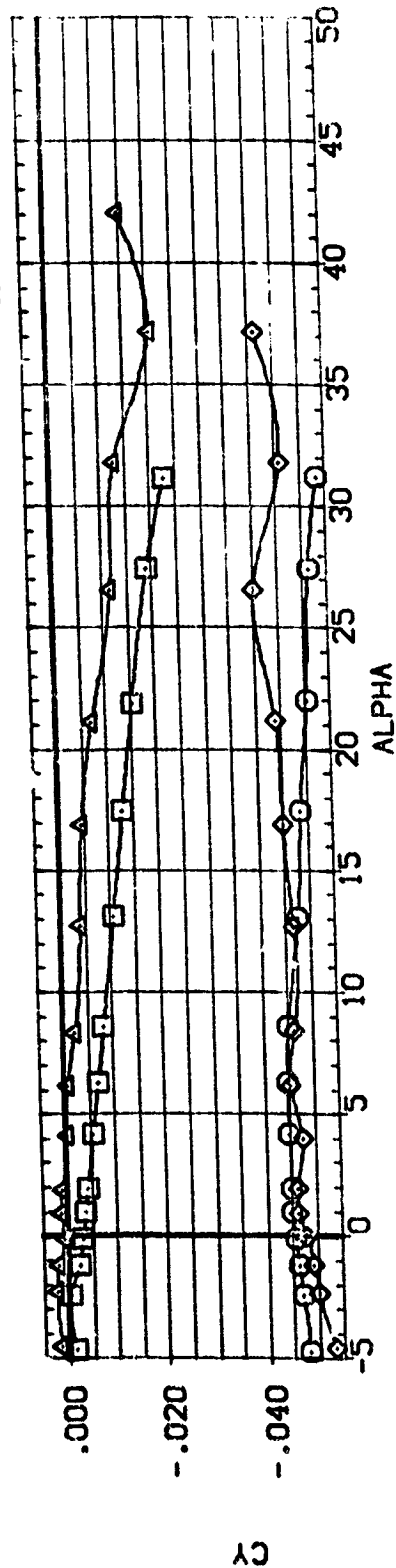
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	DBETA	RUOFLR	ELEVTR	REFERENCE INFORMATION
(EP8009)	DATA NOT AVAILABLE	75.000	3.000	.000	.000	SREF 171.4720 50. IN.
(EP8013)	LA-10 LARC UPVT 1015 LD-100 DB8.(SHIPS) (BV2VFB)	75.000	3.000	40.000	.000	LREF 25.5100 INCHES
(EP8015)	LA-10 LARC UPVT 1015 LD-100 DB8.(SHIPS) (BV2VFB)	75.000	3.000	40.000	-10.000	BREF 20.3557 INCHES
(EP8017)	DATA NOT AVAILABLE	75.000	3.000	.000	-10.000	XREF 16.8366 INCHES
						ZREF .0000 INCHES
						SCALE .0188



LAT.-DIR. CHAR WITH RUDDER FLARE (FILLET ANGLE=75 DEG.)

(D)MACH = 4.63

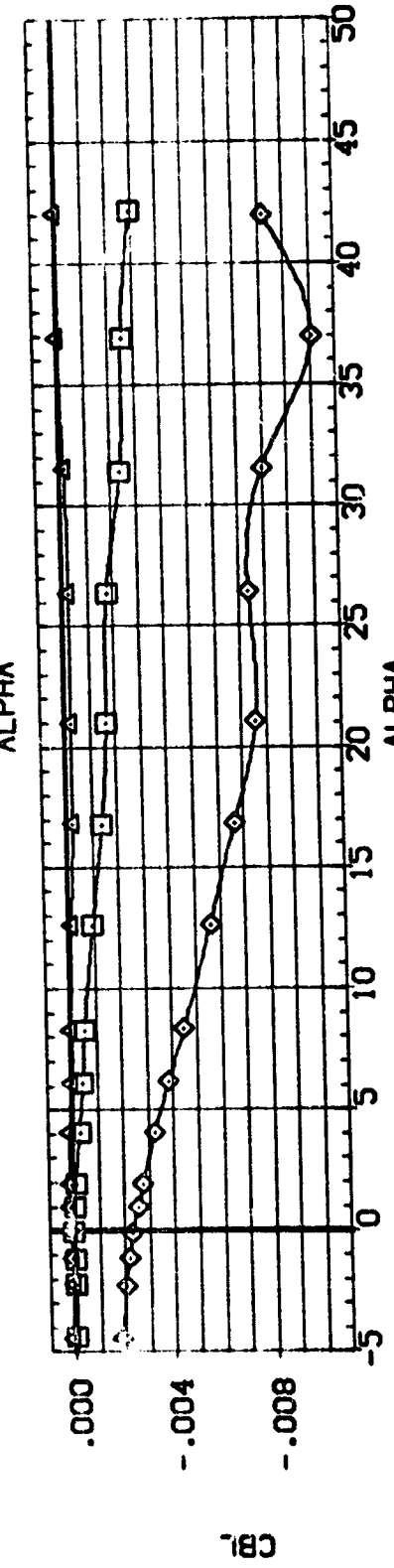
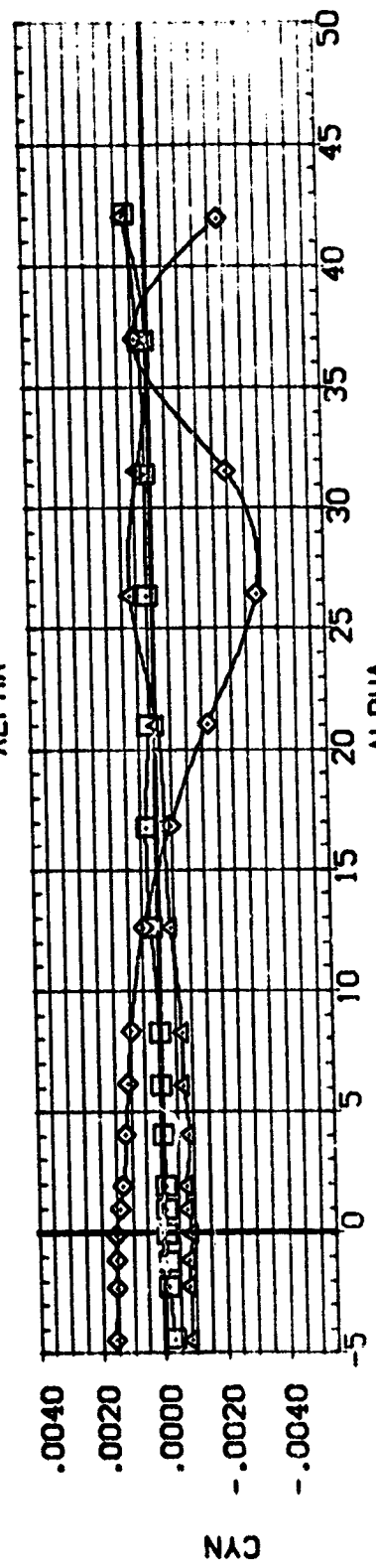
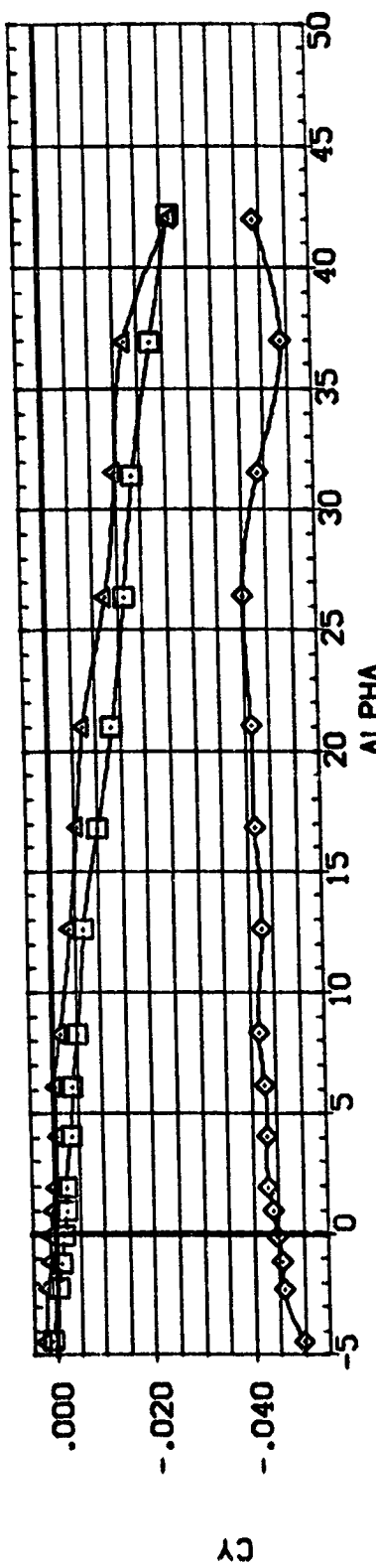
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	BETA	RUDELFLR	ELEVTR	REFERENCE INFORMATION
(RP8009)	LA-10 LARC UPVT 1015 LO-100 DRB (SHIPS) (BV2VFB)	75.000	3.000	.000	.000	SREF 171.4720 SQ. IN.
(RP8008)	LA-10 LARC UPVT 1015 LO-100 DRB (SHIPS) (BV2VFB)	75.000	3.000	.000	.000	LREF 23.5100 INCHES
(RP8013)	LA-10 LARC UPVT 1015 LO-100 DRB (SHIPS) (BV2VFB)	75.000	3.000	.000	.000	BREF 20.3597 INCHES
(RP8012)	LA-10 LARC UPVT 1015 LO-100 DRB (SHIPS) (BV2VFB)	75.000	3.000	.000	.000	XREF 16.8366 INCHES
						YREF .0000 INCHES
						ZREF .0000 INCHES
						SCALE .0188



LAT.-DIR. CHAR WITH RUDDER FLARE (FILLET ANGLE=75 DEG.)

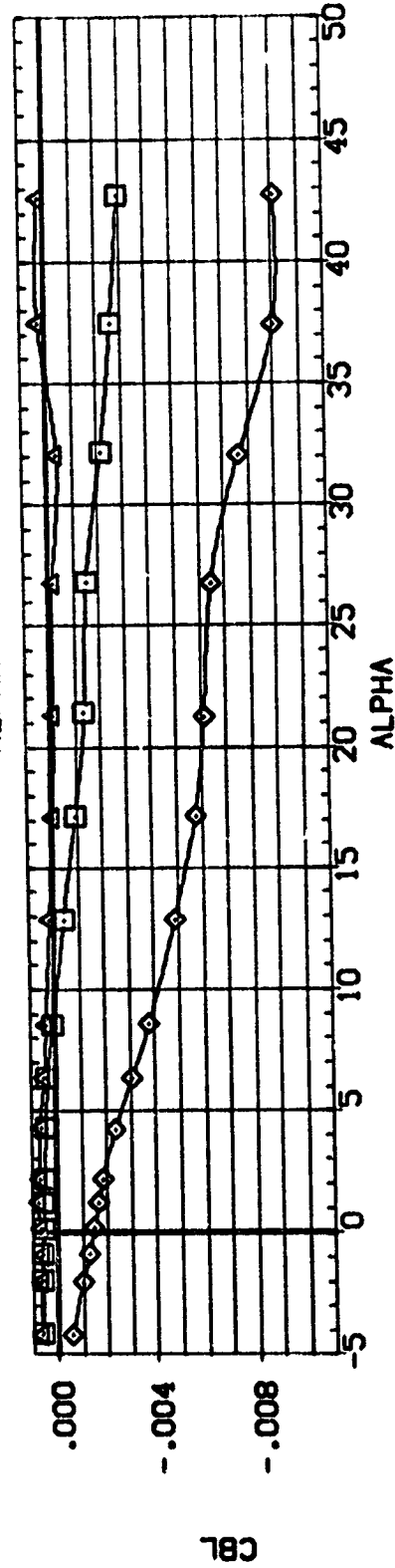
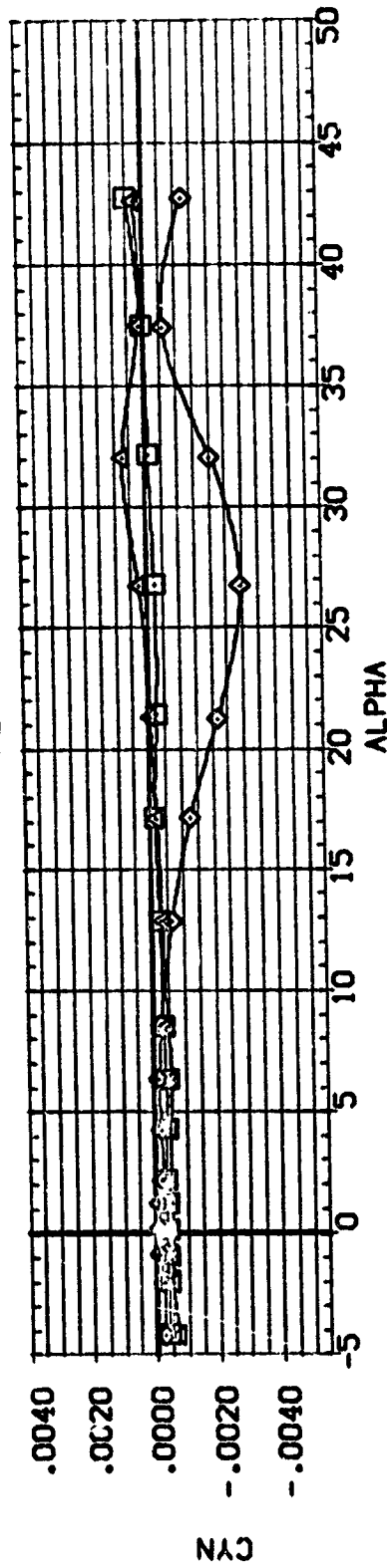
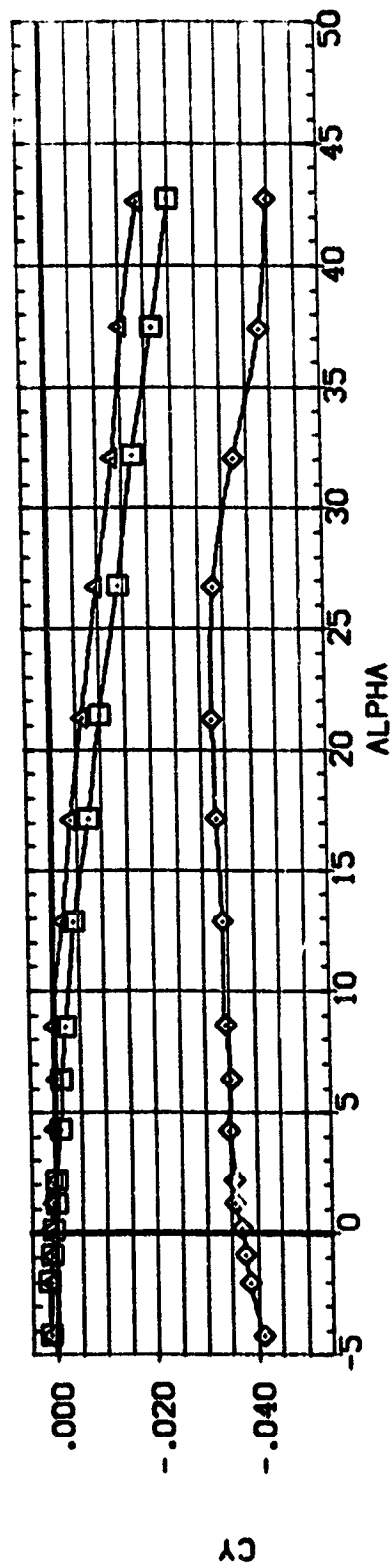
(A)MACH = 2.36

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	BETA	RUDFLR	ELEVTR	REFERENCE INFORMATION
(RP8009)	DATA NOT AVAILABLE	75.000	3.000	.000	.000	SREF 171.4720 SO.IN.
(RP8008)	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS) (BV2WFB)	75.000	.000	.000	.000	LREF 25.5100 INCHES
(RP8013)	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS) (BV2WFB)	75.000	3.000	40.000	.000	BREF 20.3597 INCHES
(RP8012)	LA-10 LARC UPVT 1015 LO-100 CRB. (SHIPS) (BV2WFB)	75.000	.000	40.000	.000	YMRP 16.8366 INCHES
					ZMRP .0000 INCHES	SCALE .0188



LAT.-DIR. CHAR WITH RUDDER FLARE (FILLET ANGLE=75 DEG.)

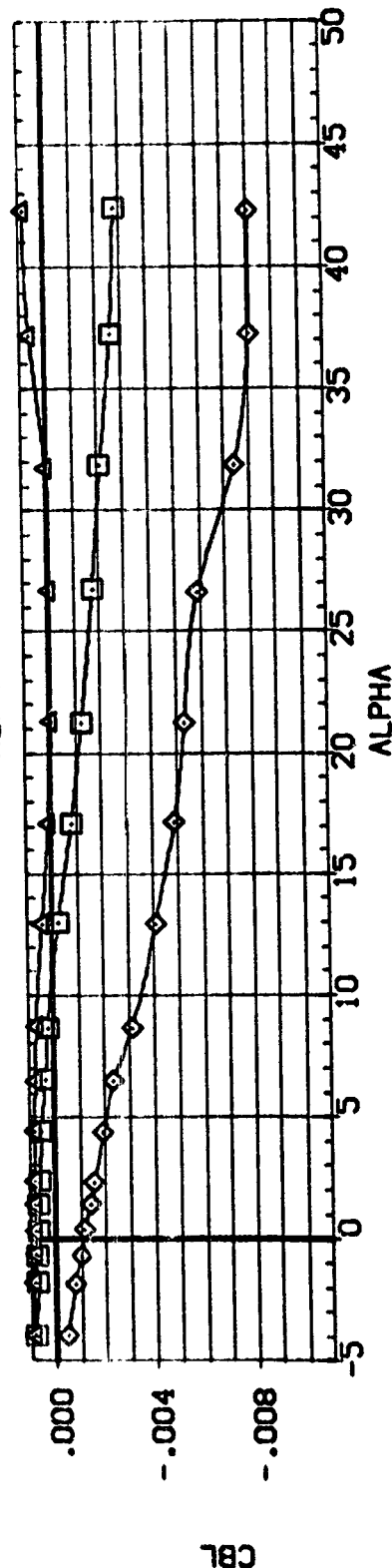
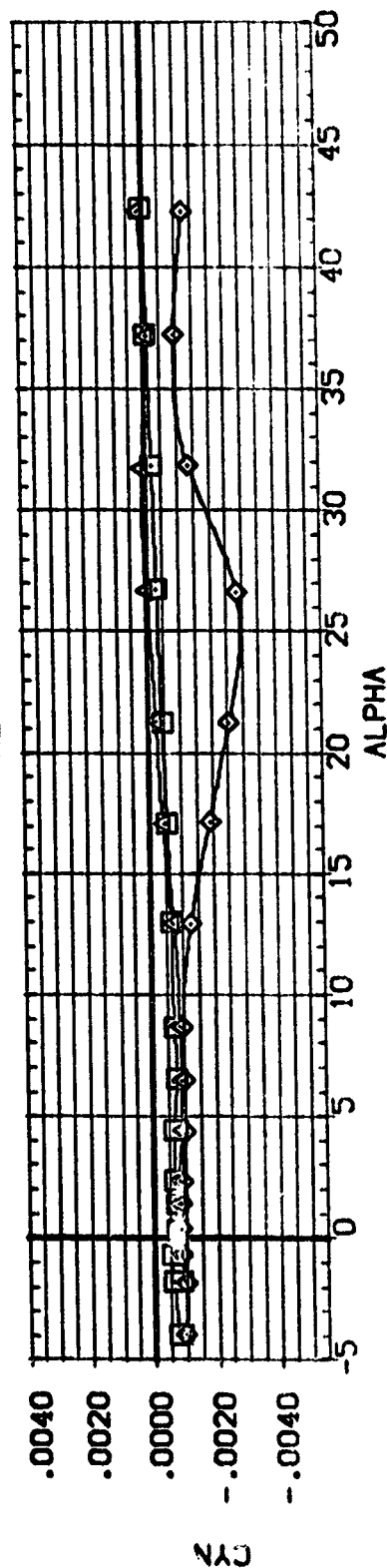
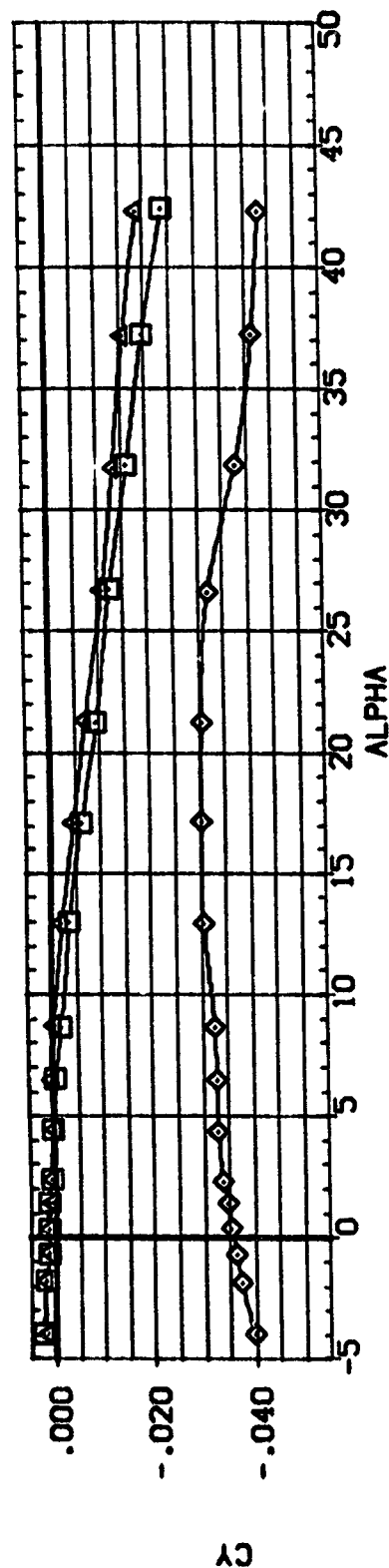
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	BETA	RUDFLR	ELEVTR	REFERENCE INFORMATION
(RP8009)	DATA NOT AVAILABLE	75.000	3.000	.000	.000	SREF 171.4720 50. IN.
(RP8008)	LA-10 LARC UPVT 1015 LG-100 088. (SHIPS) (BZ2VFB)	75.000	.000	.000	.000	LREF 25.5100 INCHES
(RP8013)	LA-10 LARC UPVT 1015 LG-100 088. (SHIPS) (BZ2VFB)	75.000	3.000	40.000	.000	BREF 20.3597 INCHES
(RP8012)	LA-10 LARC UPVT 1015 LG-100 088. (SHIPS) (BZ2VFB)	75.000	.000	40.000	.000	XREF 16.8366 INCHES
						YREF .0000 INCHES
						ZREF .0000 INCHES
						SCALE .0189 INCHES



LAT.-DIR. CHAR WITH RUDDER FLARE (FILLET ANGLE=75 DEG.)

(C)MACH = 3.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	BETA	RUOFLR	ELEVTR	REFERENCE INFORMATION
(F8008)	DATA NOT AVAILABLE	75.000	3.000	.000	.000	SREF 171.4720 SQ. IN.
(F8009)	LA-10 LARC UPVT 1015 LG-100 088.(SHIPS) (BZ2AFB)	75.000	.000	.000	.000	LREF 25.5100 INCHES
(F8010)	LA-10 LARC UPVT 1015 LG-100 088.(SHIPS) (BZ2AFB)	75.000	3.000	40.000	.000	BREF 20.3557 INCHES
(F8011)	LA-10 LARC UPVT 1015 LG-100 088.(SHIPS) (BZ2AFB)	75.000	.000	40.000	.000	YREF 16.8366 INCHES
(F8012)	LA-10 LARC UPVT 1015 LG-100 088.(SHIPS) (BZ2AFB)	75.000	.000	40.000	.000	ZREF .0000 INCHES
						SCALE .0188

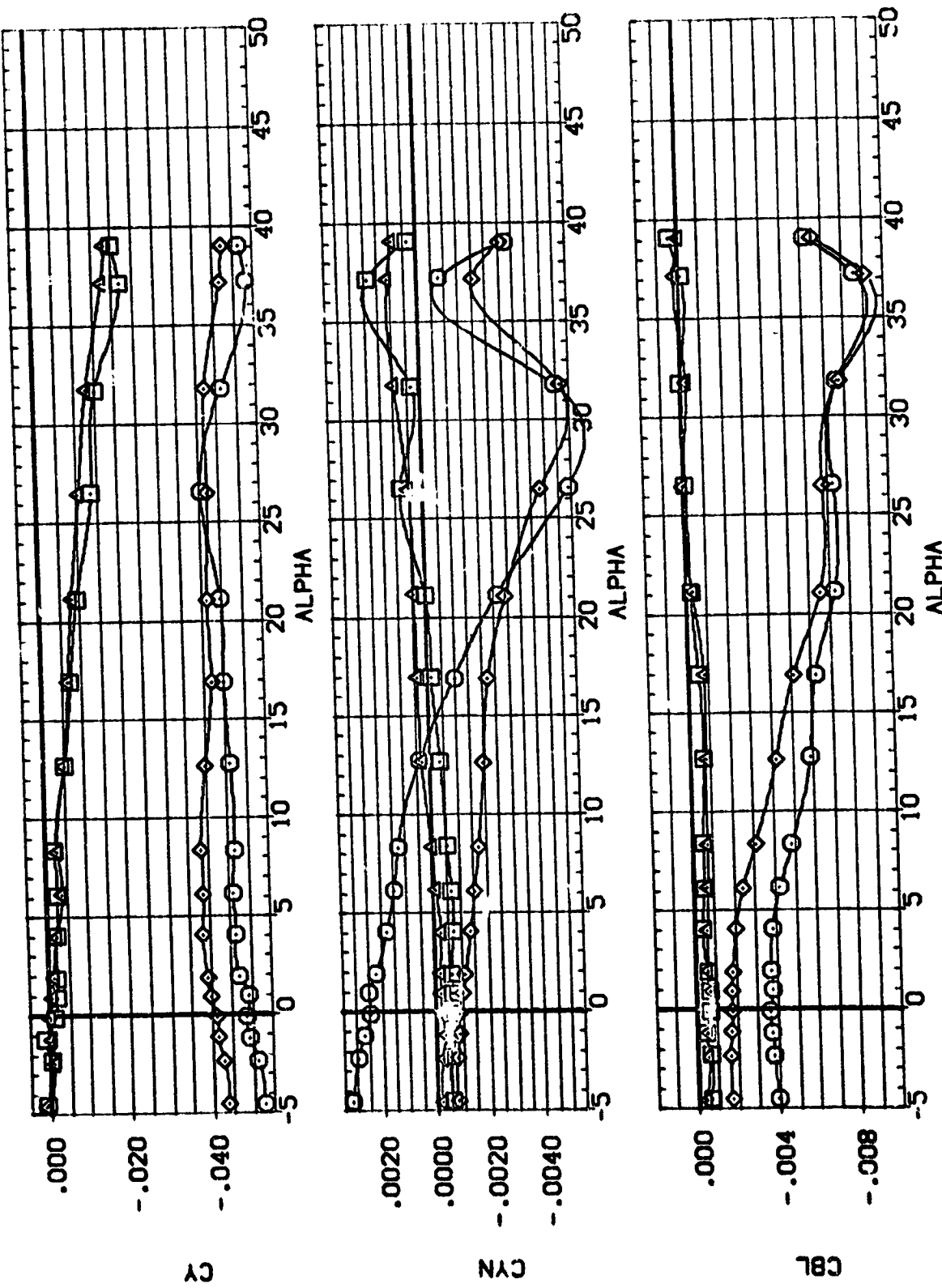


LAT.-DIR. CHAR WITH RUDDER FLARE (FILLET ANGLE=75 DEG.)

(D)MACH = 4.63



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	LANDAF	BETA	RUDFLR	ELEVTR	REFERENCE INFORMATION
(RP8015)	LA-10 LARC UPVT 1015 LO-100 CRB.(SHIPPS) (BV2VFB)	75.000	3.000	40.000	-10.000	SREF 171.4720 SQ.IN.
(RP8014)	LA-10 LARC UPVT 1015 LO-100 CRB.(SHIPPS) (BV2VFB)	75.000	.000	40.000	-10.000	LREF 25.5100 INCHES
(RP8017)	LA-10 LARC UPVT 1015 LO-100 CRB.(SHIPPS) (BV2VFB)	75.000	3.000	.000	-10.000	BREF 20.3597 INCHES
(RP8016)	LA-10 LARC UPVT 1015 LO-100 CRB.(SHIPPS) (BV2VFB)	75.000	.000	.000	-10.000	XPRP 16.8566 INCHES
						YPRP .0000 INCHES
						SCALE .0188

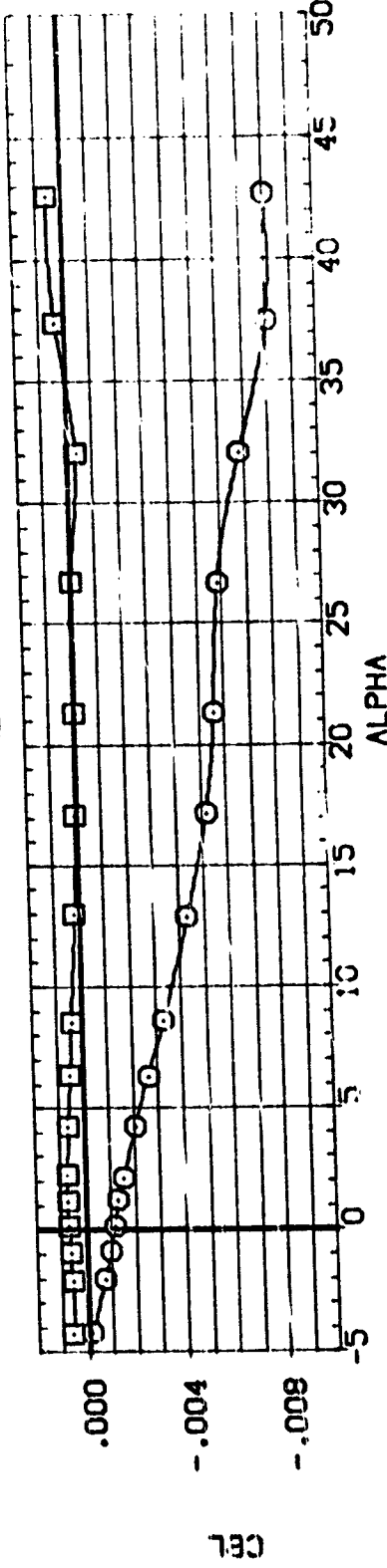
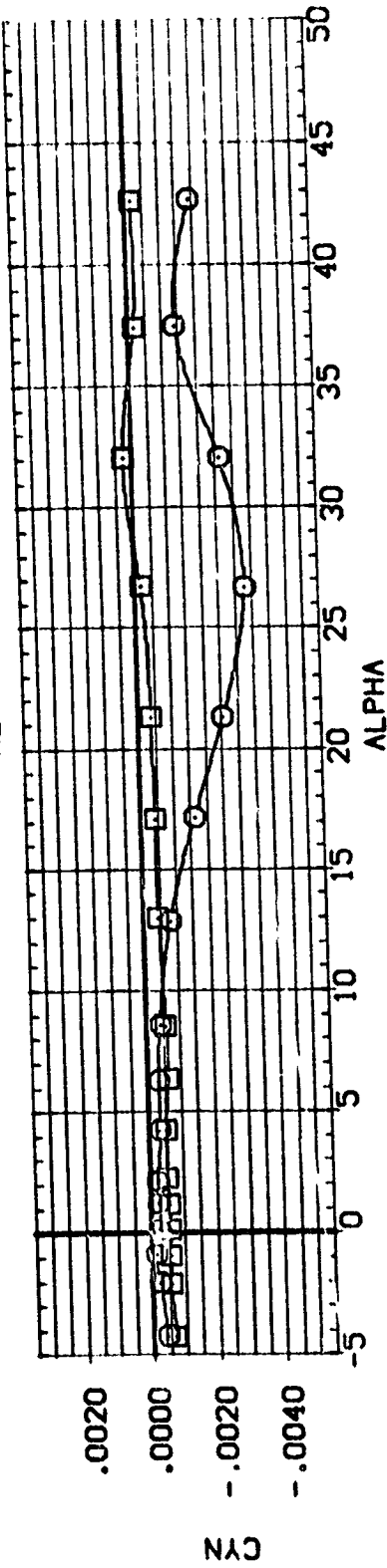
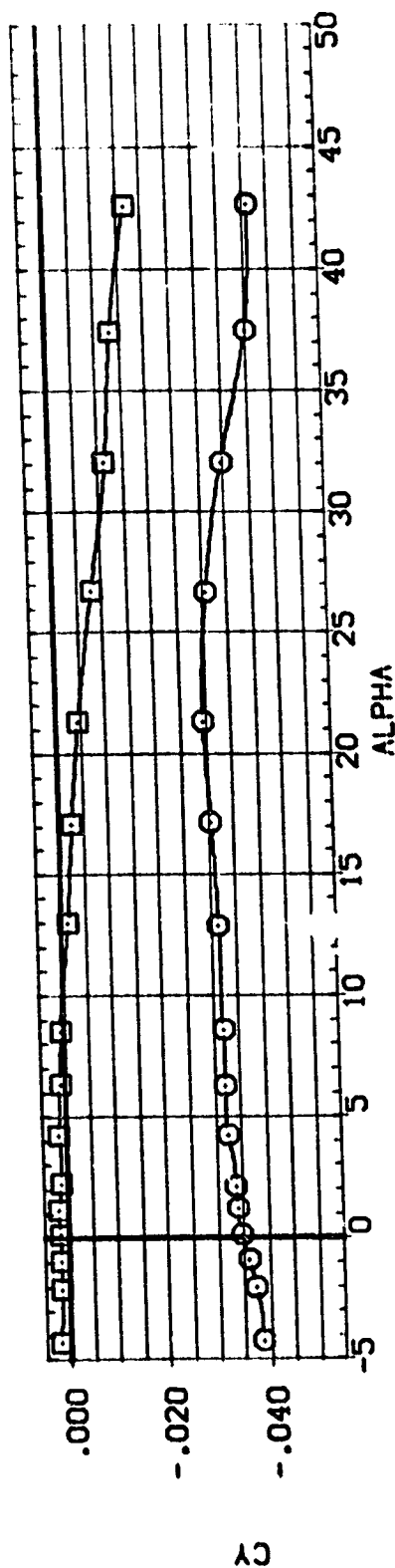


LAT.-DIR. CHAR WITH RUDDER FLARE (FILLET ANGLE=75 DEG.)

(A)MACH = 2.36



REFERENCE INFORMATION	
SREF	171.4720
LREF	25.5100
BREF	20.3597
XPRP	16.8365
YPRP	.0000
ZPRP	.0000
SCALE	.0188



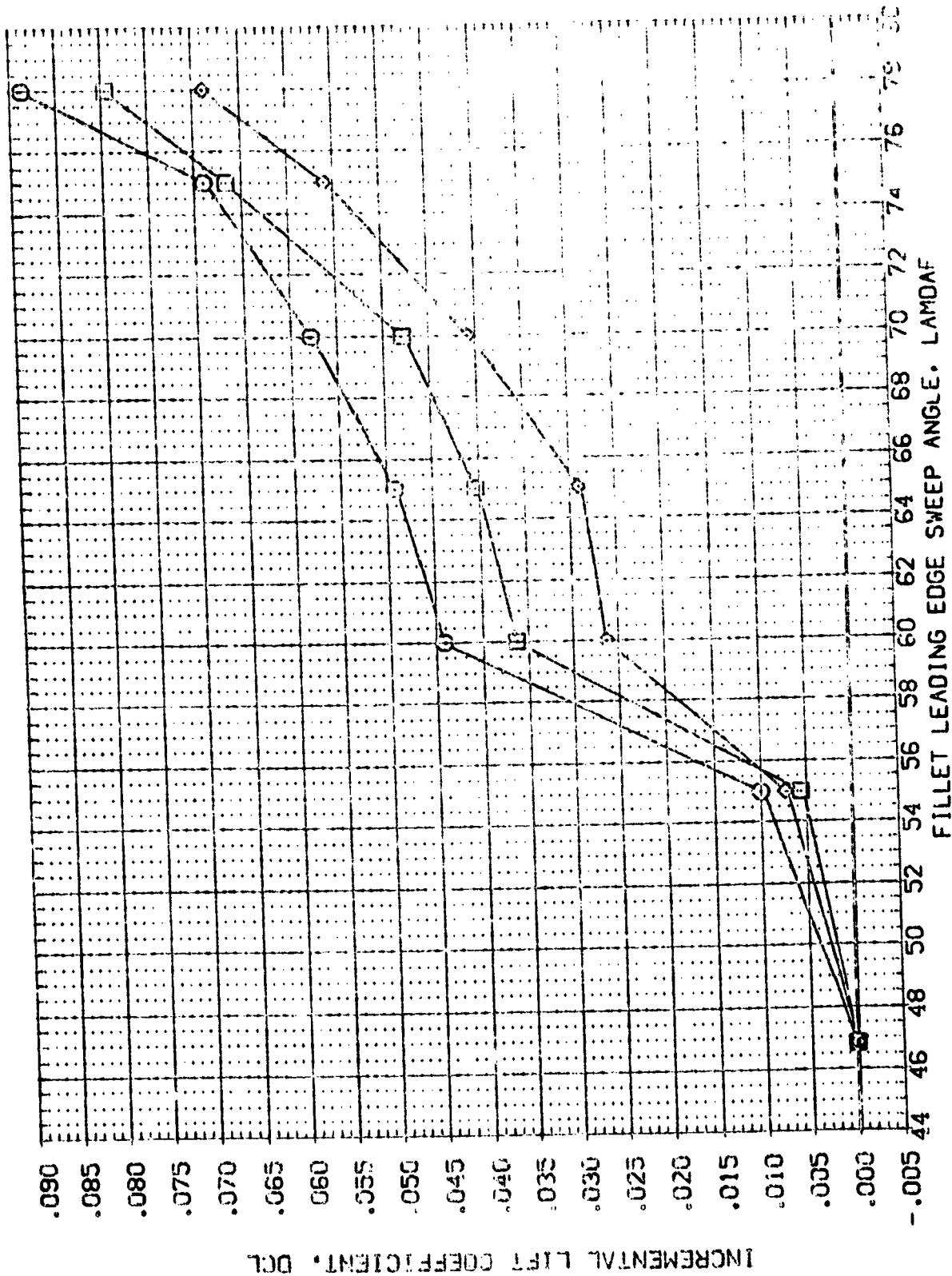
LAT.-DIR. CHAR WITH RUDDER FLARE (FILLET ANGLE=75 DEG.)

**[(C)MACH = 3.96**



# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB)(0P8001)

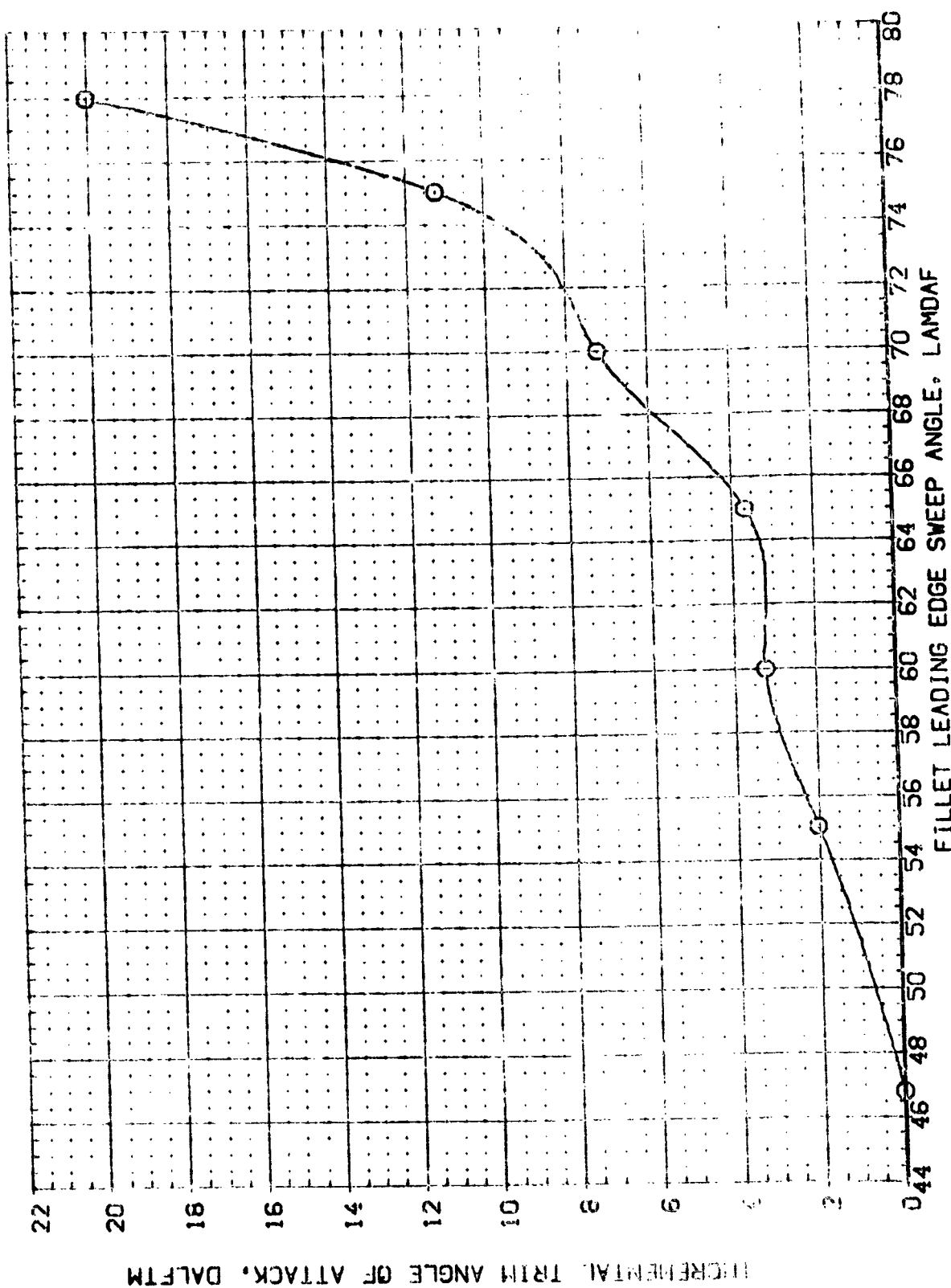
SYMBOL	MACH	PARAMETRIC VALUES	DATA SOURCE	DATA SET	LAMDAF	SREF	REFERENCE INFORMATION
○	2.860	ALPHA	.000	0P8001	55.000	171.4720	SCALE
□	3.960	BETA	.000	0P8004	65.000	25.5100	NO-ES
◇	4.630	ELEVTR	.000	0P8007	75.000	20.3697	NO-ES
		RUFLR	.000	0P8010		16.8365	NO-ES
						.0000	NO-ES
						.0000	NO-ES
						.0188	SCALE



DELTA CL FOR W-33 WING (BW2VFB)

# LA-10 LARC UPWT 1015 L0-100 ORB.(SHIPS) (BW2VFB)(HP8001)

SYMBOL	MACH	PARAMETRIC VALUES			DATA SOURCE		REFERENCE INFORMATION			
		BETA	WING	BO-LAP	DATA SET	LAMDAF	DATA SET	LAMDAF	SREF	SCALE
0	1.630	.000	.000	.000	HP8001	46.800	HP8003	55.000	171.3720	INCHES
		FLEVTR	.000	.000	HP8004	60.000	HP8005	65.000	26.5100	INCHES
		LAMDAF	46.800		HP8007	70.000	HP8008	75.000	20.3597	INCHES
					HP8010	78.000			16.8865	INCHES
									.0000	INCHES
									.0000	INCHES
									.0188	SCALE



DELTA ALPHA TRIM FOR W-33 WING (BW2VFB)

APPENDIX

TABULATED SOURCE DATA

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Plotted data available on request  
from Data Management System.

DATE 21 SEP 73

TABULATED SOURCE DATA UPWT-1015

LA-10 LARC UPWT 1015 LO-100 ORB. (SHIPS) (SHRVTB)

(RP8001) ( 06 SEP 73 )

REFERENCE DATA

SREF = 171.4720 91.1N. XMRP = 16.8366 INCHES  
LREF = 25.5100 INCHES YMRP = 0.0000 INCHES  
BREF = 20.3497 INCHES ZMRP = 0.0000 INCHES  
SCALE = 0.0188 SCALE

PARAMETRIC DATA

BETA = .000 WINGNO = 2.000  
LANDAF = 46.800 ELEVTR = .000  
BDFLAP = .000 RUOFPLR = .000

RUN NO. 34/ 0 RV/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MAOM	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
2.360	-4.436	-0.1941	-0.11264	0.6248	0.0127	-0.00061	0.0021	-0.00040	-1.51360	-0.11901	0.00000
2.360	-2.211	-0.01978	-0.04586	0.6317	-0.0157	-0.00066	0.0022	-0.00017	-0.66860	-0.11621	0.00000
2.360	-1.087	-0.02038	-0.01250	0.6374	-0.0319	-0.00091	0.0034	-0.00003	-0.17655	-0.11606	0.00000
2.360	0.020	-0.01896	0.01741	0.6452	-0.0477	-0.00062	0.0037	-0.00125	0.26956	-0.11322	0.00000
2.360	1.043	-0.01852	0.04410	0.6526	-0.0610	-0.00091	0.0026	-0.00118	0.64963	-0.12461	0.00000
2.360	2.022	-0.01926	0.07247	0.6589	-0.0767	-0.00102	0.0038	-0.00107	1.02473	-0.12736	0.00000
2.360	4.076	-0.01842	0.13234	0.6700	-0.0952	-0.00107	0.0052	-0.00203	1.66900	-0.13293	0.00000
2.360	6.173	-0.01700	0.19386	0.6820	-0.1318	-0.00113	0.0055	-0.00300	2.09140	-0.15008	0.00000
2.360	8.401	-0.01710	0.25557	0.6824	-0.1500	-0.00123	0.0069	-0.00326	2.31634	-0.15867	0.00000
2.360	12.673	-0.01434	0.38024	0.6808	-0.1828	-0.00115	0.0075	-0.00517	2.37606	-0.18159	0.00000
2.360	17.054	-0.01259	0.51405	0.6680	-0.2243	-0.00112	0.0081	-0.00682	2.19863	-0.19582	0.00000
2.360	21.188	-0.01114	0.64786	0.6481	-0.2215	-0.00099	0.0075	-0.00743	1.97106	-0.19298	0.00000
2.360	26.527	-0.00786	0.82845	0.6309	-0.2495	-0.00054	0.0083	-0.01102	1.67210	-0.19584	0.00000
2.360	31.788	-0.00615	1.01878	0.59970	-0.3002	-0.00075	0.0139	-0.01318	1.42064	-0.19294	0.00000
	GRADIENT	0.0016	0.02953	0.0256	-0.0039	-0.00016	0.00013	-0.00021	0.37996	-0.00190	0.00000

RUN NO. 36/ 0 RV/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MAOM	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
2.860	-4.365	-0.01000	-0.10610	0.6072	-0.00167	0.00007	-0.00070	-0.00164	-1.47445	-0.10255	0.00000
2.860	-2.161	-0.00997	-0.05075	0.6072	-0.0298	-0.00010	-0.00055	-0.00113	-0.77368	-0.09602	0.00000
2.860	-1.023	-0.00862	-0.02214	0.6098	-0.0376	-0.00010	-0.00055	-0.00124	-0.34303	-0.09602	0.00000
2.860	0.015	-0.00716	0.00268	0.6148	-0.0426	-0.00010	-0.00053	-0.00059	0.03400	-0.09927	0.00000
2.860	1.018	-0.00442	0.02747	0.6243	-0.0550	-0.00021	-0.00052	-0.00089	0.41896	-0.10904	0.00000
2.860	2.017	-0.00219	0.04847	0.6280	-0.0645	-0.00022	-0.00050	-0.00000	0.71708	-0.11590	0.00000
2.860	4.153	-0.00219	0.10244	0.6312	-0.0756	-0.00039	-0.00036	-0.00035	1.37416	-0.11874	0.00000
2.860	8.339	-0.00274	0.21537	0.6310	-0.0940	-0.00040	-0.00019	-0.00019	2.14334	-0.13171	0.00000
2.860	12.730	-0.00442	0.32668	0.6247	-0.1159	-0.00056	0.00014	-0.00039	2.29371	-0.14145	0.00000
2.860	16.857	-0.00633	0.44788	0.6173	-0.1359	-0.00070	0.00021	-0.00015	2.17380	-0.14145	0.00000
2.860	21.559	-0.00820	0.57707	0.6052	-0.1548	-0.00077	0.00027	-0.00016	1.98874	-0.13820	0.00000
2.860	26.399	-0.01154	0.73344	0.6073	-0.1941	-0.00066	0.00038	-0.00084	1.66377	-0.14143	0.00000
2.860	31.567	-0.01476	0.93852	0.5935	-0.2449	-0.00115	0.00088	-0.00356	1.42150	-0.13819	0.00000
2.860	36.922	-0.01824	1.12841	0.5436	-0.2945	-0.00133	0.00059	-0.01590	1.21536	-0.12523	0.00000
2.860	41.946	-0.02247	1.31450	0.5103	-0.3528	-0.00157	0.00030	-0.01827	1.02763	-0.11228	0.00000
	GRADIENT	0.0017	0.02426	0.00034	-0.00062	-0.00005	0.00003	-0.00024	0.34046	-0.00258	0.00000



(RP0001) ( 06 SEP 75 )

LA-10 LARC UPWT 1015 LO-100 CRB. (SHIPS) (BAPVFB)

## PARAMETRIC DATA

## REFERENCE DATA

SREF = 171.4750 50.1N. XGRP = 16.8366 INCHES  
 UREF = 25.3100 INCHES YGRP = .0000 INCHES  
 BREF = 20.3997 INCHES ZGRP = .0000 INCHES  
 SCALE = .0180 SCALE

BETA = .000 WINGNO = 2.000  
 LANDAF = 46.850 ELEVTR = .000  
 BOXFLAP = .000 RUDFLR = .000

RUN NO. 38/ 0 RVL = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
3.980	-4.137	.00224	-.08275	.05416	-.00237	.00062	-.00045	.00014	-1.31072	-.07218	.00000
3.980	-1.937	.00222	-.04255	.05355	-.00242	.00053	-.00033	-.00028	-.74072	-.06956	.00000
3.980	-.807	.00205	-.02086	.05326	-.00246	.00049	-.00032	-.00018	-.37561	-.06696	.00000
3.980	.249	.00276	-.00076	.05331	-.00249	.00044	-.00031	.00070	-.01850	-.06956	.00000
3.980	1.306	.00263	.01787	.05338	-.00231	.00034	-.00030	-.00062	.30961	-.06356	.00000
3.980	2.253	.00338	.03487	.05356	-.00230	.00039	-.00029	-.00115	.59653	-.07218	.00000
3.980	4.326	.00394	.07486	.05357	-.00224	.00034	-.00027	-.00146	1.19558	-.07217	.00000
3.980	6.415	.00444	.11951	.05367	-.00205	.00012	-.00025	-.00174	1.69196	-.07739	.00000
3.980	8.645	.00522	.16721	.05375	-.00208	-.00006	-.00011	-.00259	2.00877	-.07739	.00000
3.980	12.918	.00651	.26361	.05411	-.00239	-.00025	-.00004	-.00374	2.19243	-.07740	.00000
3.980	17.164	.00837	.37263	.05514	-.00303	-.00052	.00022	-.00567	2.09896	-.07478	.00000
3.980	21.360	.01114	.49638	.05689	-.00443	-.00067	.00029	-.00757	1.89166	-.07740	.00000
3.980	26.742	.01605	.67284	.05905	-.00707	-.00078	.00040	-.01112	1.62184	-.08000	.00000
3.980	32.132	.02220	.86141	.05833	-.01215	-.00085	.00050	-.01400	1.38114	-.07739	.00000
3.980	37.447	.02489	1.06234	.05825	-.01814	-.00052	.00028	-.01638	1.16732	-.07739	.00000
3.980	42.640	.02897	1.26238	.05759	-.02522	-.00026	.00017	-.02239	.99122	-.07739	.00000
3.980		.03022	.01958	-.00005	.00002	-.00003	.00002	-.00019	.30175	-.00016	.00000

RUN NO. 40/ 0 RVL = 2.49 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
4.630	-3.863	.00179	-.07769	.05222	-.00246	.00079	-.00071	.00102	-1.29054	-.05586	.00000
4.630	-1.681	.00163	-.03830	.05152	-.00236	.00068	-.00056	.00045	-.69888	-.05586	.00000
4.630	-.587	.00171	-.01855	.05131	-.00208	.00067	-.00056	.00054	-.34989	-.05254	.00000
4.630	.452	.00247	-.00075	.05121	-.00177	.00062	-.00054	-.00014	-.02255	-.05586	.00000
4.630	1.525	.00235	.01705	.05105	-.00145	.00062	-.00053	.00006	.30454	-.05586	.00000
4.630	2.467	.00224	.03477	.05112	-.00139	.00061	-.00053	.00002	.61897	-.05254	.00000
4.630	4.531	.00287	.07002	.05073	-.00062	.00050	-.00051	-.00043	1.17284	-.05586	.00000
4.630	6.591	.00349	.10913	.05078	-.00014	.00038	-.00048	-.00086	1.62890	-.05586	.00000
4.630	8.776	.00407	.15410	.05081	.00026	.00021	-.00046	-.00126	1.96360	-.05586	.00000
4.630	13.046	.00469	.23154	.05099	.00046	-.00002	-.00040	-.00284	2.19383	-.05586	.00000
4.630	17.219	.00749	.35636	.05244	.00037	-.00002	-.00020	-.00468	2.08802	-.05586	.00000
4.630	21.313	.01028	.47486	.05415	-.00010	-.00061	-.00011	-.00726	1.89219	-.05918	.00000
4.630	26.762	.01313	.64953	.05594	-.00052	-.00052	.00012	-.01039	1.62112	-.05586	.00000
4.630	31.962	.01628	.82731	.05830	-.00113	-.00054	.00007	-.01281	1.38373	-.05918	.00000
4.630	37.228	.02057	1.01763	.05666	-.01659	-.00051	.00019	-.01673	1.17438	-.05586	.00000
4.630	42.320	.02248	1.20812	.05562	-.02376	-.00076	.00083	-.02054	1.00153	-.05586	.00000
4.630		.02513	.01757	-.00015	.00023	-.00003	.00002	-.00017	.29884	-.00008	.00000

GRADIENT

DATE 21 SEP 73

TABULATED SOURCE DATA UFJT-1015

LA-10 LARC UPJT 1015 LO-100 CRB. (SHIPS) (BAPVFB)

(RP8C02) ( 06 SEP 73 )

PARAMETRIC DATA

BETA = 3.000 WINGNO = 2.000  
LAMDAP = 46.800 ELEVTR = .000  
BOFLAP = .000 RUOFLR = .000

REFERENCE DATA

SREF = 171.4720 SQ. IN. ARP = 16.8366 INCHES.  
LREF = 25.5100 INCHES YARP = .0000 INCHES  
BREF = 25.3397 INCHES ZARP = .0000 INCHES  
SCALE = .018% SCALE

RUN NO. 35/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
2.360	-4.475	3.05107	-1.1859	.06355	.00233	-.00220	-.00007	-.04343	-1.55993	-.11600	.00000
2.360	-2.195	3.04949	-1.05176	.06372	-.00271	-.00245	.00017	-.04315	-.75046	-.11028	.00000
2.360	-1.034	3.04871	-1.01833	.06443	-.00413	-.00251	.00029	-.04303	-.26514	-.11307	.00000
2.360	-.037	3.04588	-.01184	.06531	-.00551	-.00271	.00026	-.04102	.18191	-.11854	.00000
2.360	1.111	3.04657	.04531	.06605	-.00715	-.00281	.00028	-.04160	.65794	-.12702	.00000
2.360	2.148	3.04612	.07149	.06663	-.00826	-.00290	.00016	-.04088	.98622	-.13271	.00000
2.360	4.180	3.04782	.13058	.06749	-.01091	-.00310	-.00005	-.04126	1.63747	-.14695	.00000
2.360	6.126	3.04862	.19238	.06835	-.01357	-.00334	-.00062	-.03970	2.07928	-.15555	.00000
2.360	8.392	3.05199	.25748	.06841	-.01563	-.00386	-.00115	-.04003	2.32518	-.16709	.00000
2.360	12.722	3.05726	.38304	.06777	-.01871	-.00469	-.00212	-.04013	2.38408	-.18426	.00000
2.360	17.039	3.06272	.51378	.06587	-.02101	-.00545	-.00235	-.04107	2.21015	-.18139	.00000
2.360	21.262	3.06748	.65169	.06406	-.02298	-.00651	-.00336	-.04194	1.97317	-.18138	.00000
2.360	26.535	3.07177	.82919	.06212	-.02545	-.00846	-.00470	-.04128	1.67657	-.19863	.00000
2.360	31.832	3.07611	1.12109	.06020	-.03077	-.00933	-.00555	-.04139	1.41726	-.20431	.00000
2.360	GRADIENT	-.00050	.02914	.00352	-.00132	-.00211	.00700	.00033	.38410	-.00401	.00000

RUN NO. 37/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
2.860	-4.314	3.06505	-1.03042	.06469	-.00172	-.00009	-.00211	-.03837	-1.4378	-.10255	.00000
2.860	-2.180	3.06179	-1.04950	.06555	-.00370	-.00032	-.00187	-.03861	-.75	-.09609	.00000
2.860	-.931	3.06013	-1.02075	.06672	-.00554	-.00065	-.00174	-.03572	-.32245	-.09285	.00000
2.860	.032	3.05859	-.01401	.06819	-.00728	-.00065	-.00187	-.03564	.06497	-.10259	.00000
2.860	1.043	3.05583	.02887	.06872	-.00901	-.00113	-.00173	-.03554	.44581	-.11993	.00000
2.860	2.052	3.05257	.06176	.06893	-.01072	-.00130	-.00171	-.03581	.77608	-.11729	.00000
2.860	4.140	3.05593	.11306	.06242	-.01282	-.00191	-.00156	-.03619	1.41013	-.11877	.00000
2.860	6.143	3.06015	.18815	.06276	-.01482	-.00246	-.00153	-.03620	1.89719	-.12847	.00000
2.860	8.294	3.06154	.27316	.06282	-.01693	-.00306	-.00149	-.03670	2.17232	-.13173	.00000
2.860	12.739	3.06363	.33295	.06248	-.01862	-.00337	-.00167	-.03807	2.32232	-.13819	.00000
2.860	16.070	3.06512	.45056	.06100	-.02035	-.00367	-.00213	-.03765	2.18621	-.13820	.00000
2.860	20.392	3.07211	.58363	.06030	-.02156	-.00457	-.00283	-.03884	1.96185	-.13921	.00000
2.860	26.392	3.07428	.75451	.05924	-.02247	-.00573	-.00339	-.03884	1.67212	-.14468	.00000
2.860	31.677	3.07696	.94484	.05848	-.02447	-.00733	-.00385	-.03896	1.41661	-.14468	.00000
2.860	36.916	3.07996	1.13101	.05343	-.02834	-.00968	-.00452	-.04369	1.20793	-.12527	.00000
2.860	42.011	3.08271	1.31621	.05057	-.03493	-.00990	-.00551	-.04663	1.02792	-.11228	.00000
2.860	GRADIENT	-.00056	.02430	.00424	-.00162	-.00222	.00706	.00026	.34361	-.00252	.00000

DATE 21 SEP 73

TABULATED SOURCE DATA UPWT-1015

(R00002) ( 06 SEP 73 )

LA-10 LARC 4FWT 1015 LO-180 CRB. (SHIPS) (942VFB)

PARAMETRIC DATA

REFERENCE DATA

SREF = 171.4720 SQ.IN. YMRP = 16.8366 INCHES  
 LREF = 23.5100 INCHES YMRP = .0000 INCHES  
 BREF = 20.3397 INCHES ZMRP = .0000 INCHES  
 SCALE = .0160 SCALE

BETA = 3.000 WINGNO = 2.000  
 LANDAF = 46.800 ELEVTR = .000  
 BDFLAP = .000 RUFLR = .000

RUN NO. 39/ 0 RNU = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CT	L/D	CPB	CPC
3.960	-4.104	3.07754	-.08210	.05424	-.00259	.00095	-.00381	-.03365	-1.30055	-.06954	.00000
3.960	-1.915	3.07394	-.04162	.05374	-.00263	.00042	-.00312	-.03163	-.72237	-.06685	.00000
3.960	-.806	3.07287	-.01990	.05352	-.00267	.00016	-.00313	-.03096	-.35586	-.06955	.00000
3.960	.257	3.07182	.00028	.05334	-.00270	.00002	-.00313	-.03026	.00069	-.06955	.00000
3.960	1.306	3.07164	.01893	.05337	-.00270	-.00004	-.00312	-.03018	.32913	-.06955	.00000
3.960	2.264	3.07133	.03761	.05340	-.00252	-.00042	-.00301	-.03008	.64677	-.07216	.00000
3.960	4.334	3.07079	.07771	.05329	-.00245	-.00099	-.00288	-.03035	1.24387	-.07216	.00000
3.960	6.424	3.07065	.12097	.05341	-.00242	-.00170	-.00275	-.03063	1.71492	-.07477	.00000
3.960	8.619	3.07046	.16879	.05347	-.00245	-.00249	-.00261	-.03085	2.03256	-.07739	.00000
3.960	12.940	3.07035	.26569	.05374	-.00255	-.00381	-.00222	-.03191	2.20718	-.07739	.00000
3.960	17.176	3.07017	.37467	.05482	-.00335	-.00505	-.00216	-.03270	2.09658	-.08000	.00000
3.960	21.461	3.07286	.50218	.05643	-.00480	-.00580	-.00262	-.03214	1.89073	-.08110	.00000
3.960	26.745	3.07617	.67539	.05789	-.00629	-.00629	-.00307	-.03273	1.62265	-.08000	.00000
3.960	32.057	3.07745	.86450	.05842	-.00764	-.00746	-.00253	-.03544	1.38027	-.08000	.00000
3.960	37.438	3.08017	1.06334	.05828	-.00820	-.00836	-.00208	-.03874	1.16775	-.07739	.00000
3.960	42.655	3.08317	1.26348	.05712	-.00911	-.00829	-.00232	-.03984	.99154	-.07740	.00000
GRADIENT		-.000078	.01888	-.00011	.00002	-.00002	.00003	.00039	.30691	-.00047	.00000

RUN NO. 41/ 0 RNU = 2.49 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CT	L/D	CPB	CPC
4.630	-3.891	3.04201	-.08033	.05238	-.00245	.00109	-.00378	-.03029	-1.32703	-.05586	.00000
4.630	-1.664	3.04085	-.04182	.05156	-.00234	.00065	-.00378	-.02936	-.74145	-.05254	.00000
4.630	-.599	3.03983	-.02115	.05112	-.00229	.00042	-.00379	-.02850	-.39969	-.05254	.00000
4.630	.455	3.03881	-.00318	.05098	-.00198	.00020	-.00379	-.02766	-.07041	-.05586	.00000
4.630	1.498	3.03868	.01466	.05087	-.00187	.00003	-.00378	-.02757	.26003	-.05586	.00000
4.630	2.433	3.03797	.03048	.05066	-.00157	-.00019	-.00365	-.02748	.54478	-.05586	.00000
4.630	4.502	3.03768	.06774	.05000	-.00106	-.00064	-.00363	-.02715	1.15301	-.05586	.00000
4.630	6.597	3.03765	.10891	.04995	-.00080	-.00020	-.00347	-.02754	1.64888	-.05518	.00000
4.630	8.756	3.03669	.15405	.05023	-.00019	-.00013	-.00332	-.02715	1.97836	-.05918	.00000
4.630	13.090	3.03593	.24981	.05069	.00006	-.00006	-.00286	-.02785	2.18811	-.05918	.00000
4.630	17.214	3.03543	.35305	.05197	-.00049	-.00044	-.00288	-.02843	2.08823	-.05918	.00000
4.630	21.336	3.03669	.47163	.05364	-.00246	-.00051	-.00288	-.02843	1.89465	-.05918	.00000
4.630	26.678	3.03832	.64471	.05553	-.00365	-.00081	-.00306	-.02929	1.62541	-.05586	.00000
4.630	31.913	3.03936	.82474	.05597	-.00521	-.00101	-.00241	-.03226	1.38677	-.05586	.00000
4.630	37.203	3.04201	1.01719	.05621	-.00693	-.00170	-.00216	-.03531	1.17640	-.05586	.00000
4.630	42.341	3.04538	1.20756	.05511	-.00810	-.00272	-.00248	-.03698	1.00160	-.05918	.00000
GRADIENT		-.000055	.01755	-.00026	.00017	-.00020	.00002	.00039	.29961	-.00042	.00000

DATE 21 SEP 73 TABULATED SOURCE DATA UPWT-1015 (RP0003) ( 06 SEP 73 )

LA-10 LARC UPWT 10:15 LO-100 ORB. (SHIPS) (BAPVFB)

PARAMETRIC DATA

BETA = .000 WINGNO = 2.000  
LWDAF = 55.000 ELEVTR = .000  
BDFLAP = .000 RUFLR = .000

REFERENCE DATA

SREF = 171.4725 SQ. IN. XREF = 16.8366 INCHES  
LREF = 25.5100 INCHES YREF = .0000 INCHES  
SREF = 21.3997 INCHES ZREF = .0000 INCHES  
SCALE = .0000 SCALE

RUN NO. 44/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALPHA	BETA	CN	CA	CLM	CLB	CYN	CY	L/D	CPB	CPC
2.360	-4.426	-0.0852	-0.0636	.06093	.00034	-.00051	-.00014	.00020	-1.46971	-.11896	.00000
2.360	-2.193	-0.01626	-0.03974	.06153	-.00229	-.00062	-.00009	-.00153	-.57738	-.11353	.00000
2.360	-1.069	-0.01645	-0.0670	.06209	-.00369	-.00076	-.00008	-.00142	-.08906	-.11633	.00000
2.360	-.016	-0.01573	.02270	.06288	-.00485	-.00077	-.00006	-.00198	.35017	-.11900	.00000
2.360	1.051	-0.01444	.05593	.06118	-.00559	-.00086	-.00052	-.00130	.80188	-.12174	.00000
2.360	2.023	-0.01431	.07958	.06183	-.00696	-.00096	-.00039	-.00184	1.19720	-.12736	.00000
2.360	4.110	-0.01376	.13921	.06332	-.00960	-.00092	-.00037	-.00229	1.83636	-.13977	.00000
2.360	6.192	-0.01303	.20057	.06438	-.01204	-.00107	-.00029	-.00380	2.24713	-.15310	.00000
2.360	8.332	-0.01301	.26040	.06477	-.01386	-.00094	-.00029	-.00380	2.43100	-.16165	.00000
2.360	12.723	-0.01086	.38670	.06523	-.01695	-.00096	-.00027	-.00593	2.43859	-.18458	.00000
2.360	16.973	-0.00880	.51967	.06421	-.01896	-.00088	-.00022	-.00802	2.24427	-.19605	.00000
2.360	21.156	-0.00646	.65480	.06235	-.02044	-.00075	-.00022	-.01942	1.99738	-.19887	.00000
2.360	26.340	-0.00298	.83648	.06114	-.02335	-.00077	-.00044	-.01229	1.68287	-.19603	.00000
2.360	31.826	-0.00121	1.02653	.05743	-.02846	-.00057	-.00098	-.01520	1.42668	-.19003	.00000
	GRADIENT	.00056	.02857	.00021	-.00114	-.00005	-.00004	-.00024	.39555	-.00249	.00000

RUN NO. 45/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MAON	ALPHA	BETA	CN	CA	CLM	CLB	CYN	CY	L/D	CPB	CPC
2.860	-4.437	-0.01829	-0.0636	.05936	-.00137	-.00004	-.00043	.00010	-1.35995	-.10292	.00000
2.860	-2.116	-0.01919	-0.03645	.05927	-.00270	-.00005	-.00029	.00125	-.56521	-.09971	.00000
2.860	-1.010	-0.01845	-0.01130	.05940	-.00320	-.00016	-.00027	.00160	-.17203	-.09645	.00000
2.860	.037	-0.01771	.01586	.06208	-.00396	-.00016	-.00026	-.00004	.25994	-.10292	.00000
2.860	1.103	-0.01696	.04078	.06078	-.00447	-.00011	-.00024	-.00069	.64338	-.10938	.00000
2.860	2.149	-0.01680	.06219	.05983	-.00470	-.00016	-.00050	.00079	.96611	-.11586	.00000
2.860	4.129	-0.01533	.11288	.05989	-.00581	-.00028	-.00046	-.00121	1.59545	-.12234	.00000
2.860	6.217	-0.01474	.16739	.06014	-.00721	-.00023	-.00044	-.00175	2.05247	-.12883	.00000
2.860	8.448	-0.01331	.22574	.06036	-.00842	-.00029	-.00040	-.00300	2.30940	-.13257	.00000
2.860	12.741	-0.01252	.34072	.05975	-.01037	-.00042	-.00038	-.00476	2.38670	-.13855	.00000
2.860	16.891	-0.01115	.45725	.05842	-.01219	-.00043	-.00031	-.00651	2.21573	-.14179	.00000
2.860	21.012	-0.00930	.58877	.05842	-.01402	-.00056	-.00027	-.00817	1.99013	-.14180	.00000
2.860	26.395	-0.00590	.76502	.05918	-.01809	-.00063	-.00027	-.01084	1.67789	-.14826	.00000
2.860	31.597	-0.00286	.95208	.05754	-.02324	-.00088	-.00064	-.01428	1.42573	-.15152	.00000
2.860	36.942	-0.00018	1.14090	.05352	-.02759	-.00123	-.00097	-.01727	1.20758	-.15191	.00000
2.860	42.078	.00282	1.33022	.04993	-.03337	-.00168	-.00084	-.01955	1.02733	-.15618	.00000
	GRADIENT	.00040	.02434	.00011	-.00052	-.00003	-.00003	-.00028	.35373	-.00273	.00000

LA-10 LARC UPWT 1015 LO-100 CRB. (SHIPS) (BMEVFB)

(RP8003) ( 06 SEP 73 )

## PARAMETRIC DATA

## REFERENCE DATA

SREF = 171.4720 SQ.IN. XMRP = 16.8966 INCHES  
 LREF = 25.5150 INCHES YMRP = .0000 INCHES  
 BREF = 20.3597 INCHES ZMRP = .0000 INCHES  
 SCALE = .0188 SCALE

BETA = .000 WINGNO = 2.000  
 LANDAF = 55.000 ELEVTR = .000  
 BOFLAP = .000 RUFLAP = .000

RUN NO. 42/ 0 RVL = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CEL	CYN	CY	L/D	CPB	CPC
3.960	-4.121	-.01934	-.07957	.05347	-.00242	.00045	-.00048	.00196	-1.27890	-.06985	.00000
3.960	-1.905	-.02025	-.03872	.05300	-.00228	.00096	-.00037	.00215	-.68067	-.06724	.00000
3.960	-.765	-.02043	-.01521	.05276	-.00216	.00040	-.00037	.00225	-.27354	-.06724	.00000
3.960	-.275	-.01970	.00361	.05299	-.00217	.00035	-.00035	.00175	.06325	-.06724	.00000
3.960	1.318	-.01983	.02242	.05306	-.00218	.00040	-.00035	.00181	.39564	-.06724	.00000
3.960	2.315	-.01910	.04121	.05321	-.00200	.00035	-.00033	.00129	.71180	-.06985	.00000
3.960	4.340	-.01882	.07937	.05273	-.00173	.00039	-.00043	.00144	1.28281	-.07246	.00000
3.960	6.439	-.01832	.12375	.05306	-.00154	.00017	-.00040	.00103	1.75712	-.07245	.00000
3.960	8.677	-.01694	.17105	.05313	-.00157	.00003	-.00037	.00195	2.05647	-.07507	.00000
3.960	12.964	-.01478	.26873	.05413	-.00188	-.00005	-.00020	.00195	2.25935	-.07507	.00000
3.960	17.179	-.01269	.37680	.05488	-.00241	-.00035	-.00072	.00338	2.59978	-.07768	.00000
3.960	21.375	-.01022	.50148	.05642	-.00376	-.00145	-.00066	.00634	1.89714	-.07768	.00000
3.960	26.773	-.00522	.67829	.05829	-.00732	-.00380	.00015	.00895	1.62010	-.07768	.00000
3.960	32.564	-.00245	.86819	.05992	-.01184	-.00772	.00046	.01158	1.37909	-.08029	.00000
3.960	37.547	-.00420	1.07468	.05919	-.01761	-.01261	.00037	.01569	1.16265	-.08029	.00000
3.960	42.667	-.00711	1.27190	.05809	-.02398	-.01799	.00102	.01968	.99112	-.08029	.00000
	GRADIENT	.04011	.01878	-.00005	.00007	-.00001	.00001	-.00009	.30870	-.00034	.00000

RUN NO. 43/ 0 RVL = 2.49 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CEL	CYN	CY	L/D	CPB	CPC
4.630	-3.885	-.02018	-.07332	.05216	-.00252	.00074	-.00090	.00406	-1.22115	-.05296	.00000
4.630	-1.712	-.01944	-.05937	.05144	-.00240	.00057	-.00087	.00347	-.64465	-.05296	.00000
4.630	-.580	-.02015	-.01537	.05125	-.00211	.00057	-.00074	.00359	-.28900	-.04963	.00000
4.630	.462	-.02028	.00466	.05113	-.00183	.00051	-.00073	.00368	.08301	-.05294	.00000
4.630	1.536	-.01952	.02272	.05097	-.00152	.00051	-.00072	.00300	.41398	-.05294	.00000
4.630	2.459	-.01961	.03866	.05083	-.00144	.00056	-.00071	.00307	.69492	-.04963	.00000
4.630	4.615	-.01869	.07339	.04981	-.00169	.00045	-.00096	.00319	1.27681	-.05294	.00000
4.630	6.619	-.01866	.11386	.05018	-.00201	.00039	-.00101	.00262	1.70436	-.05296	.00000
4.630	8.806	-.01721	.15553	.05057	-.00244	.00022	-.00077	.00150	2.14578	-.05625	.00000
4.630	13.050	-.01518	.25508	.05110	-.00265	.00004	-.00070	.00057	2.20682	-.05625	.00000
4.630	17.254	-.01379	.36180	.05241	-.00317	-.00014	-.00050	-.00240	2.19486	-.05956	.00000
4.630	21.370	-.01156	.48173	.05405	-.00415	-.00044	-.00029	-.00489	1.89892	-.05625	.00000
4.630	26.756	-.00817	.65411	.05608	-.00597	-.00057	-.00019	-.00762	1.62319	-.05957	.00000
4.630	31.890	-.00561	.83174	.05657	-.00967	-.00059	-.00011	-.00972	1.38748	-.05956	.00000
4.630	37.234	-.00135	1.07260	.05667	-.01608	-.00056	.00000	-.01361	1.17457	-.05956	.00000
4.630	42.372	-.00114	1.21967	.05525	-.02314	-.00081	.00051	-.01743	1.00120	-.05956	.00000
	GRADIENT	.00013	.01758	-.00025	.00022	-.00003	.00000	-.00011	.30091	.00008	.00000

DATE 21 SEP 73

TABULATED SOURCE DATA UPMF-1015

LA-10 LARC UPMF 1015 LO-100 QFB. (SHIPS) (SUMM9)

(RP6004) (06 SEP 73)

PARAMETRIC DATA

REFERENCE DATA

SREF = 171.4720 SQ.IN. XMRP = 16.8366 INCHES  
 LREF = 25.5100 INCHES YMRP = .0000 INCHES  
 BREF = 20.3397 INCHES ZMRP = .0000 INCHES  
 SCALE = .0188 SCALE  
 BETA = .0000 WINGAO = 2.000  
 LAMDAF = 60.000 ELEVTR = .000  
 BOFLAP = .000 RUFLR = .000

RUN NO. 30/ 0 RVAL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	QFB	CFC
2.360	-4.643	-.02381	-.11871	.06089	.00055	-.00071	.00020	.00022	-1.61300	-.10984	.00000
2.360	-2.404	-.02148	-.04982	.06209	-.00214	-.00032	.00008	.00111	-.73565	-.11543	.00000
2.360	-1.197	-.02171	-.01270	.06296	-.00360	-.00072	.00009	.00124	-.18012	-.11571	.00000
2.360	-.126	-.01836	.01749	.06373	-.00477	-.00086	.00015	-.00130	.27691	-.12173	.00000
2.360	1.015	-.01942	.04936	.06465	-.00597	-.00087	.00014	-.00082	.73585	-.12462	.00000
2.360	1.912	-.01868	.07444	.06483	-.00709	-.00087	.00016	-.00110	1.07369	-.13031	.00000
2.360	4.102	-.01878	.14144	.06516	-.00942	-.00087	.00029	-.00130	1.79397	-.13869	.00000
2.360	6.228	-.01737	.23324	.06689	-.01167	-.00292	.00032	-.00128	2.19982	-.14728	.00000
2.360	8.383	-.01747	.26676	.06730	-.01352	-.00391	.00046	-.00130	2.40919	-.15590	.00000
2.360	12.645	-.01355	.39539	.06727	-.01686	-.00592	.00067	-.00645	2.43819	-.17309	.00000
2.360	16.926	-.01330	.53402	.06595	-.01875	-.0084	.00083	-.00721	2.24952	-.17591	.00000
2.360	20.988	-.01181	.66972	.06413	-.02143	-.00047	.00076	-.00801	2.01020	-.17328	.00000
2.360	26.499	-.00743	.86129	.06253	-.02433	-.00035	.00099	-.01189	1.68740	-.18735	.00000
2.360	31.889	-.00812	1.06333	.06138	-.03085	-.00058	.00163	-.01369	1.42180	-.20165	.00000
2.360	GRADIENT	.00035	.02950	.00061	-.00114	-.00003	.00031	-.00028	.39680	-.00334	.00000

RUN NO. 31/ 0 RVAL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	QFB	CFC
2.860	-4.439	-.02238	-.11224	.05828	-.00098	-.00020	-.00049	.00398	-1.47575	-.09616	.00000
2.860	-2.284	-.02190	-.04698	.05932	-.00278	-.00015	-.00045	.00269	-.72915	-.09606	.00000
2.860	-1.118	-.02017	-.01828	.05979	-.00357	-.00021	-.00043	.00205	-.28450	-.09600	.00000
2.860	-.102	-.02029	.00659	.06048	-.00431	-.00016	-.00043	.00214	.11073	-.09932	.00000
2.860	.970	-.02102	.03138	.06093	-.00504	-.00022	-.00030	.00225	.49369	-.09954	.00000
2.860	1.934	-.01968	.05425	.06126	-.00528	-.00022	-.00040	.00157	.82706	-.10290	.00000
2.860	4.229	-.01973	.11292	.06156	-.00649	-.00032	-.00025	.00107	1.55014	-.10619	.00000
2.860	6.152	-.01972	.16225	.06171	-.00760	-.00037	-.00010	.00054	1.97354	-.11938	.00000
2.860	8.192	-.01926	.21731	.06172	-.00854	-.00031	-.00007	-.00074	2.24108	-.11906	.00000
2.860	12.693	-.01693	.34151	.06184	-.01059	-.00047	.00013	-.00247	2.36706	-.12554	.00000
2.860	16.940	-.01580	.46498	.06112	-.01229	-.00049	.00032	-.00419	2.20547	-.12875	.00000
2.860	20.974	-.01284	.59295	.06024	-.01337	-.00045	.00048	-.00667	1.98176	-.12550	.00000
2.860	26.340	-.01033	.77629	.06080	-.01405	-.00048	.00048	-.00897	1.67633	-.13847	.00000
2.860	31.517	-.00730	.96930	.05942	-.01532	-.00056	.00086	-.01269	1.42680	-.14170	.00000
2.860	36.976	-.00254	1.17214	.05572	-.02897	-.00059	.00126	-.01789	1.20458	-.13198	.00000
2.860	42.035	-.00216	1.37748	.05296	-.03681	-.00023	.00110	-.02098	1.02701	-.13200	.00000
2.860	GRADIENT	.00027	.02460	.00040	-.00063	-.00001	.00033	-.00030	.35381	-.00126	.00000

(RP8004) (06 SEP 73)

TABULATED SOURCE DATA UPAT-1015

LA-10 LARC UPAT 1015 LO-100 ORB. (SHIPS) (BACVFB)

DATE 21 SEP 73

## PARAMETRIC DATA

BETA = .000 WINGNO = 2.000  
 LANDAF = 60.000 ELEVTR = .000  
 BOFLAP = .000 RUFLR = .000

## REFERENCE DATA

WREF = 171.4720 SQ. IN. XREF = 16.8366 INCHES  
 YREF = 25.5150 INCHES YMRP = .0000 INCHES  
 ZREF = 20.3597 INCHES ZMRP = .0000 INCHES  
 SCALE = .0106 SCALE

GRADIENT INTERVAL = -5.00/ 5.00

RUN NO.

32/ 0

RV/L

2.50

GRADIENT

INTERVAL

= -5.00/ 5.00

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WREF

YREF

ZREF

SCALE

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WINGNO

DATE 21 SEP 73

TABULATED SOURCE DATA UPWT-1015

(RP0005) (06 SEP 73)

LA-10 LARC UPWT 1015 LO-100 ORB. (SHIPS) (B-2NF8)

PARAMETRIC DATA

REFERENCE DATA

SREF = 171.4720 SQ.IN. XMRP = 16.8366 INCHES  
 LREF = 25.5100 INCHES YMRP = .0070 INCHES  
 BREF = 20.3997 INCHES ZMRP = .0000 INCHES  
 SCALE = .0188 SCALE  
 BETA = .000 WINGNO = 2.000  
 LANDAF = 65.000 ELEVTR = .000  
 BDFLAP = .000 RUFLR = .000

RUN NO. 26/ 0 RVL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CFB	CPC
2.360	-4.564	-.02158	-.11723	.06047	-.00026	-.00052	.00019	.00087	-1.60976	-.10610	.00000
2.360	-2.336	-.01824	-.14818	.06162	-.00008	-.00076	.00012	-.00089	-.71819	-.11219	.00000
2.360	-1.214	-.01668	-.01288	.06239	-.00428	-.00081	.00015	-.00208	-.18450	-.11268	.00000
2.360	-.105	-.01772	.01720	.06310	-.00544	-.00062	.00014	-.00131	.27458	-.11532	.00000
2.360	.925	-.01527	.04743	.06369	-.00639	-.00082	.00019	-.00318	.71996	-.12096	.00000
2.360	1.892	-.01516	.07614	.06398	-.00711	-.00092	.00032	-.00371	1.11173	-.12379	.00000
2.360	4.121	-.01378	.14281	.06534	-.00942	-.00093	.00035	-.00479	1.82608	-.13223	.00000
2.360	6.098	-.01238	.25285	.06616	-.01143	-.00099	.00039	-.00589	2.23178	-.13796	.00000
2.360	8.297	-.01067	.26755	.06653	-.01328	-.00118	.00034	-.00829	2.44311	-.14671	.00000
2.360	12.637	-.00745	.39961	.06656	-.01611	-.00115	.00031	-.00962	2.46101	-.16586	.00000
2.360	16.970	-.00485	.53914	.06507	-.01810	-.00112	.00038	-.01137	2.26167	-.16667	.00000
2.360	21.132	.00043	.67732	.06390	-.01948	-.00143	.00057	-.01457	2.00822	-.16377	.00000
2.360	26.497	.00435	.86710	.06185	-.02270	-.00148	.00044	-.01717	1.69250	-.18370	.00000
2.360	31.784	.01215	1.06703	.06000	-.02875	-.00196	.00073	-.02364	1.42814	-.19228	.00000
	GRADIENT	.00181	.02976	.04406	-.03103	-.03204	.00002	-.00065	.40392	-.00299	.00000

RUN NO. 28/ 0 RVL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CFB	CPC
2.680	-4.454	-.02122	-.11051	.05763	-.00141	-.00016	-.00004	.00029	-1.49395	-.05185	.00000
2.680	-2.234	.00123	-.14508	.05865	-.00292	-.00016	.00000	-.00099	-.70848	-.09192	.00000
2.680	-1.071	.00196	-.01636	.05886	-.00344	-.00016	.00002	-.00162	-.25790	-.09195	.00000
2.680	-.058	.00270	.01035	.05938	-.00418	-.00017	.00004	-.00227	.17534	-.09192	.00000
2.680	.985	.00345	.03024	.05987	-.00466	-.00017	.00006	-.00293	.56573	-.09840	.00000
2.680	1.915	.00481	.05026	.05984	-.00486	-.00006	-.00005	-.00361	.87905	-.09848	.00000
2.680	4.097	.00475	.11331	.06126	-.00581	-.00029	.00010	-.00411	1.59430	-.10845	.00000
2.680	6.111	.00619	.16852	.06153	-.00674	-.00037	.00014	-.00539	2.16214	-.10489	.00000
2.680	8.333	.00761	.22726	.06155	-.00795	-.00037	.00018	-.00666	2.32724	-.10817	.00000
2.680	12.610	.00906	.34473	.06113	-.00876	-.00064	.00034	-.00902	2.40377	-.11465	.00000
2.680	16.768	.01321	.45773	.06165	-.01131	-.00098	.00034	-.01120	2.23634	-.12111	.00000
2.680	20.912	.01651	.59752	.05947	-.01226	-.00116	.00029	-.01340	1.99903	-.11468	.00000
2.680	26.377	.02039	.78405	.05947	-.01575	-.00145	.00027	-.01644	1.68320	-.12763	.00000
2.680	31.628	.02606	.98134	.05818	-.02152	-.00153	.00028	-.02099	1.42712	-.13410	.00000
2.680	36.880	.03261	1.18196	.05673	-.02766	-.00194	.00053	-.02471	1.20759	-.13084	.00000
2.680	42.043	.03254	1.38289	.05131	-.03353	-.00230	.00061	-.02836	1.02947	-.11793	.00000
	GRADIENT	.00064	.02510	.04131	-.04451	-.00001	.00001	-.00054	.56722	-.00102	.00000



LA-10 LARC UPWT 1015 LO-100 ORB. (SHIPS) (SLPWS)

(RP0005) ( 06 SEP 73 )

## REFERENCE DATA

BRP = 171.4720 SQ. IN. YMRP = 16.8366 INCHES  
 LREF = 25.5100 INCHES YMRP = .0000 INCHES  
 BRP = 20.3397 INCHES ZMRP = .0000 INCHES  
 SCALE = .0188 SCALE

## PARAMETRIC DATA

BETA = .000 WINGNO = 2.000  
 LANDAF = 65.000 ELEVTR = .000  
 BFLAP = .000 RUFLR = .000

RUN NO. 22/ 0 RV/L = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

WICH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	QFB	QPC
3.960	-4.242	-.00215	-.08753	.05234	-.00262	.00041	-.00018	.00196	-1.42190	-.05563	.00000
3.960	-1.889	-.00163	-.04098	.05132	-.00232	.00044	-.00016	.00156	-.74308	-.05320	.00000
3.960	-.810	-.00091	-.02076	.05135	-.00214	.00035	-.00014	.00107	-.38794	-.05581	.00000
3.960	.141	-.00106	-.00209	.05138	-.00194	.00035	-.00014	.00115	-.04313	-.05581	.00000
3.960	1.732	-.00135	.01813	.05134	-.00177	.00026	-.00012	.00064	.33107	-.05842	.00000
3.960	2.160	.00097	.03675	.05141	-.00175	.00017	-.00020	.00010	.65936	-.05581	.00000
3.960	4.210	.01242	.07678	.05132	-.00150	.00017	-.00017	-.00094	1.28137	-.05580	.00000
3.960	6.343	.01351	.12462	.05162	-.00116	.00016	-.00025	-.00135	1.81290	-.05840	.00000
3.960	8.616	.00575	.17226	.05191	-.00119	-.00006	-.00021	-.00296	2.11744	-.06103	.00000
3.960	12.855	.00946	.27364	.05292	-.00122	-.00033	-.00024	-.00484	2.26711	-.06364	.00000
3.960	17.168	.01168	.38322	.05431	-.00169	-.00065	-.00017	-.00650	2.13542	-.06626	.00000
3.960	21.128	.01599	.51111	.05553	-.00232	-.00102	-.00007	-.00939	1.93411	-.06626	.00000
3.960	26.917	.02187	.74668	.05755	-.00292	-.00126	-.00016	-.01288	1.62723	-.06364	.00000
3.960	32.560	.02558	.89713	.05856	-.00393	-.00181	.00001	-.01633	1.38677	-.06364	.00000
3.960	37.549	.03292	1.11193	.05888	-.00505	-.00219	.00012	-.02094	1.16752	-.06104	.00000
3.960	42.646	.03765	1.31588	.05538	-.00258	-.00256	.00024	-.02440	.99805	-.05320	.00000
GRADIENT		.00054	.01942	-.00010	.00014	-.00004	-.00000	-.00034	.32656	-.00017	.00000

RUN NO. 24/ 0 RV/L = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

WICH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	QFB	QPC
4.630	-3.953	-.00259	-.08333	.05159	-.00276	.00068	-.00078	.00481	-1.41672	-.03853	.00000
4.630	-1.785	-.00195	-.04405	.04990	-.00262	.00062	-.00076	.00422	-.82890	-.03853	.00000
4.630	-.682	-.00120	-.02440	.04930	-.00230	.00062	-.00074	.00355	-.47817	-.03848	.00000
4.630	.343	-.00143	-.01461	.04935	-.00197	.00056	-.00072	.00286	-.14009	-.04183	.00000
4.630	1.366	-.00056	.01319	.04904	-.00166	.00056	-.00070	.00295	.24157	-.04183	.00000
4.630	2.337	.00122	.02887	.04884	-.00131	.00044	-.00066	.00091	.53737	-.04183	.00000
4.630	4.413	.00172	.06597	.04901	-.00032	.00027	-.00063	.00034	1.14953	-.04183	.00000
4.630	6.556	.00231	.11896	.04939	.00012	.00021	-.00061	.00022	1.67842	-.04179	.00000
4.630	8.619	.00290	.15380	.04939	.00052	.00019	-.00058	-.00098	2.11258	-.04510	.00000
4.630	12.970	.00546	.25447	.05128	.00119	-.00013	-.00067	-.00195	2.23066	-.04844	.00000
4.630	17.557	.00920	.38040	.05142	.00190	-.00047	-.00058	-.00498	2.12740	-.04513	.00000
4.630	21.366	.01192	.48529	.05333	-.00060	-.00099	-.00049	-.00723	1.95983	-.04513	.00000
4.630	26.679	.01528	.66458	.05350	-.00423	-.00134	-.00038	-.01036	1.63765	-.04510	.00000
4.630	31.876	.01952	.84730	.05578	-.004937	-.00170	-.00026	-.01423	1.39458	-.04183	.00000
4.630	37.217	.02368	1.04932	.05598	-.00536	-.00240	-.00013	-.01806	1.18040	-.03522	.00000
4.630	42.337	.02857	1.24508	.05219	-.00217	-.00202	-.00015	-.02198	1.00920	-.03192	.00000
GRADIENT		.00051	.01784	-.00020	.00000	-.00003	.00001	-.00046	.31333	-.00053	.00000

DATE 21 SEP 73

RP0006 ( 06 SEP 73 )

TABULATED SOURCE DATA UPM-1015  
LA-10 LARC UPM 1015 LO-100 CRB. (SHIPS) (M2VFB)

PARAMETRIC DATA

BETA = 3.000 WINGNO = 2.000  
LANDAF = 65.000 ELEVTR = .000  
BOFLAP = .000 RUDFLR = .000

REFERENCE DATA

REF = 171.720 SQ. IN. YMRP = 16.8366 INCHES  
LREF = 25.310 INCHES YMRP = .000 INCHES  
BREF = 20.3597 INCHES ZMRP = .000 INCHES  
SCALE = .0180 SCALE

RUN NO. 27/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	QPC
2.360	-4.453	3.07046	-1.1599	.06079	-.00067	-.00207	.00006	-.04429	-1.59277	-.10920	.00000
2.360	-2.232	3.06944	-.04594	.06215	-.00327	-.00236	.00018	-.04990	-.69582	-.11244	.00000
2.360	-1.150	3.07012	-.01346	.06271	-.00448	-.00237	.00020	-.04453	-.19371	-.11786	.00000
2.360	-.154	3.06966	.01511	.06324	-.00540	-.00237	.00009	-.04372	.24180	-.12091	.00000
2.360	.940	3.07272	.04695	.06359	-.00658	-.00233	.00001	-.04564	.71438	-.12365	.00000
2.360	1.869	3.07226	.07224	.06409	-.00747	-.00252	-.00011	-.04494	1.05573	-.12642	.00000
2.360	4.029	3.07274	.13566	.06507	-.00931	-.00257	-.00045	-.04405	1.75640	-.13799	.00000
2.360	6.161	3.07611	.20487	.06595	-.01139	-.00309	-.00097	-.04456	2.22383	-.14371	.00000
2.360	8.351	3.07884	.26782	.06598	-.01354	-.00361	-.00138	-.04499	2.45022	-.14954	.00000
2.360	12.701	3.08456	.40322	.06690	-.01589	-.00506	-.00208	-.04644	2.47708	-.16090	.00000
2.360	16.932	3.08904	.54162	.06419	-.01785	-.00612	-.00257	-.04766	2.27769	-.17509	.00000
2.360	21.169	3.09569	.67801	.06253	-.01939	-.00814	-.00311	-.05025	2.01999	-.17504	.00000
2.360	26.494	3.10363	.86796	.06145	-.02322	-.00905	-.00449	-.05104	1.69470	-.18645	.00000
2.360	31.748	3.11076	1.06476	.05914	-.02799	-.00994	-.00552	-.05238	1.43199	-.18651	.00000
	GRADIENT	.074039	.02953	.00150	-.00152	-.00105	-.00006	-.00005	.40272	-.00336	.00000

RUN NO. 29/ 0 RN/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	QPC
2.860	-4.472	3.06491	-1.1516	.05789	-.00162	-.00205	-.00143	-.04061	-1.52214	-.09197	.00000
2.860	-2.238	3.06399	-.04779	.05891	-.00313	-.00227	-.00129	-.04036	-.74842	-.08875	.00000
2.860	-1.194	3.06246	-.02092	.05910	-.00363	-.00244	-.00131	-.03873	-.33065	-.08203	.00000
2.860	-.078	3.06189	.00776	.05944	-.00439	-.00261	-.00131	-.03865	.13187	-.09196	.00000
2.860	.957	3.06134	.03270	.05967	-.00486	-.00282	-.00131	-.03780	.52656	-.09522	.00000
2.860	1.854	3.06217	.06397	.05949	-.00496	-.00299	-.00142	-.03848	.84793	-.09846	.00000
2.860	3.964	3.06325	.11691	.06441	-.00597	-.00375	-.00151	-.03902	1.55348	-.10495	.00000
2.860	6.017	3.06373	.16516	.06300	-.00691	-.00425	-.00167	-.03950	2.05354	-.11148	.00000
2.860	8.225	3.06624	.22722	.06447	-.00745	-.00475	-.00196	-.04084	2.34374	-.11455	.00000
2.860	12.591	3.07395	.34564	.06338	-.00892	-.00547	-.00238	-.04245	2.41087	-.11797	.00000
2.860	16.782	3.07694	.46345	.05994	-.01124	-.00615	-.00281	-.04387	2.23992	-.12446	.00000
2.860	20.907	3.07794	.61204	.05932	-.01244	-.00737	-.00281	-.04462	2.04263	-.13190	.00000
2.860	26.299	3.08278	.78310	.05919	-.01585	-.00814	-.00346	-.04710	1.68949	-.13412	.00000
2.860	31.593	3.08538	.97872	.05834	-.02088	-.00894	-.00404	-.04710	1.42846	-.13097	.00000
2.860	36.922	3.08717	1.18573	.05655	-.02755	-.00987	-.00477	-.04897	1.20654	-.13090	.00000
2.860	42.011	3.08182	1.38199	.05201	-.03289	-.01301	-.00519	-.05172	1.02948	-.11800	.00000
	GRADIENT	-.00127	.02527	.00123	-.00051	-.00020	-.00001	.00026	.37091	-.00166	.00000

## TABULATED SOURCE DATA UPWT-1015

LA-10 LARC UPWT 1015 LO-100 CRB. (SHIPS) (B42VFB)

(RP0006) ( 06 SEP 73 )

## REFERENCE DATA

SREF = 171.4720 SQ.IN. XMRP = 16.8366 INCHES  
 LREF = 25.5100 INCHES YMRP = .0000 INCHES  
 BREF = 20.3597 INCHES ZMRP = .0000 INCHES  
 SCALE = .0188 SCALE

## PARAMETRIC DATA

BETA = 3.000 W/MANO = 2.000  
 LANDAF = 65.000 ELNTR = .000  
 BDFLAP = .000 RUFLR = .000

RUN NO. 25/ 0 RV/L = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
3.960	-4.242	3.05506	-0.09208	.03280	-.00318	.00095	-.00338	-.03078	-1.44845	-.03580	.00000
3.960	-2.035	3.03289	-0.04790	.05196	-.00282	.00038	-.00338	-.02938	-.85831	-.03320	.00000
3.960	-9.70	3.03121	-0.02458	.05167	-.00286	.00012	-.00328	-.02867	-.45657	-.03579	.00000
3.960	1.149	3.03103	-0.00430	.05152	-.00268	-.00037	-.00326	-.02857	-.08601	-.03580	.00000
3.960	1.202	3.05084	.01593	.05134	-.00229	-.00059	-.00325	-.02848	.28751	-.03320	.00000
3.960	2.224	3.05066	.03471	.05129	-.00205	-.00108	-.00313	-.02839	.62168	-.03580	.00000
3.960	4.272	3.04967	.07644	.05134	-.00185	-.00169	-.00298	-.02818	1.27261	-.03841	.00000
3.960	6.271	3.05041	.12126	.05163	-.00183	-.00253	-.00294	-.02816	1.77937	-.03842	.00000
3.960	8.296	3.05170	.16804	.05175	-.00190	-.00421	-.00264	-.03131	2.05885	-.06103	.00000
3.960	12.527	3.05207	.27233	.05310	-.00216	-.00548	-.00277	-.03235	2.15312	-.06365	.00000
3.960	17.064	3.05477	.38430	.05437	-.00346	-.00619	-.00321	-.03347	1.91818	-.06625	.00000
3.960	21.311	3.05922	.51412	.05616	-.00449	-.00699	-.00382	-.03520	1.63569	-.06364	.00000
3.950	26.699	3.06413	.69546	.05768	-.00537	-.00864	-.00434	-.03945	1.38502	-.05841	.00000
3.950	32.112	3.06752	.89675	.05842	-.00537	-.00985	-.00490	-.04169	1.16948	-.05581	.00000
3.960	37.498	3.07031	1.10917	.05881	-.00526	-.01115	-.00493	-.04269	.99261	-.05058	.00000
3.960	42.799	3.07199	1.31911	.05559	-.00413	-.01124	-.00413	.00028	.32638	-.00029	.00000
3.960	GRADIENT	-.00460	.01951	-.00417	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 25/ 0 RV/L = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
4.630	-3.898	3.03951	-0.08211	.03074	-.00280	.00119	-.00381	-.02796	-1.39801	-.03853	.00000
4.630	-1.862	3.03895	-0.04477	.04992	-.00287	.00059	-.00395	-.02710	-.83969	-.03848	.00000
4.630	-.666	3.03879	-0.02370	.04942	-.00257	.00042	-.00393	-.02696	-.45138	-.03853	.00000
4.630	.393	3.03776	-0.01322	.04926	-.00226	.00021	-.00394	-.02611	-.07231	-.03853	.00000
4.630	1.389	3.03763	.01270	.04912	-.00166	-.00019	-.00392	-.02613	.23338	-.04183	.00000
4.630	2.313	3.03750	.02854	.04866	-.00130	-.00019	-.00378	-.02595	.53346	-.04183	.00000
4.630	4.399	3.03661	.06780	.04850	-.00081	-.00069	-.00374	-.02574	1.18978	-.04183	.00000
4.630	6.430	3.03716	.11861	.04915	-.00034	-.00030	-.00345	-.02631	1.63405	-.04183	.00000
4.630	8.624	3.03648	.15572	.04915	-.00015	-.00019	-.00345	-.02684	2.03393	-.04513	.00000
4.630	13.014	3.03626	.25279	.04974	.00017	-.00059	-.00310	-.02767	2.23082	-.04513	.00000
4.630	17.168	3.03717	.36231	.05114	.00017	-.00093	-.00303	-.02835	2.12615	-.04513	.00000
4.630	21.236	3.04012	.48415	.05296	-.00121	-.001594	-.00321	-.02987	1.92270	-.04513	.00000
4.630	26.630	3.04364	.66469	.05464	-.00146	-.001684	-.00336	-.03222	1.64099	-.04183	.00000
4.630	31.933	3.04667	.84848	.05547	-.001975	-.001842	-.00255	-.03588	1.39305	-.03853	.00000
4.630	37.217	3.04807	1.05177	.05570	-.001572	-.001933	-.00270	-.03815	1.18118	-.03522	.00000
4.630	42.314	3.04976	1.24480	.05218	-.002326	-.001980	-.00246	-.04120	1.01003	-.02531	.00000
4.630	GRADIENT	-.00436	.01801	-.00427	.00000	.00000	.00000	.00000	.31765	-.00053	.00000

DATE 21 SEP 73 TABULATED SOURCE DATA UPWT-1015

LA-10 LARC UPWT 1015 LO-100 ORB. (SHIPS) (B&WFB) (RPM007) ( 06 SEP 73 )

PARAMETRIC DATA

REF = 171.4720 SQ. IN. XMRP = 16.8366 INCHES BETA = .000 WINGNO = 2.000  
UREF = 25.5100 INCHES YMRP = .0000 INCHES LANDAF = 70.000 ELEVTR = .000  
BREF = 20.3597 INCHES ZMRP = .0000 INCHES BOFLAP = .000 RUOFLR = .000  
SCALE = .5188 SCALE

RUN NO. 18/0 RVL = 1.51 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
2.360	-4.564	-0.0150	-1.1715	.06419	-0.0029	-0.0057	.00034	-0.0010	-1.61557	-.10782	.00000
2.360	-2.257	.00119	-.04151	.06179	-0.0086	-0.0072	.00039	-0.00281	-.61736	-.11330	.00000
2.360	-1.141	.00101	-.00949	.06240	-0.0085	-0.0063	.00039	-.00269	-.13173	-.11635	.00000
2.360	-.128	.00097	.02480	.06257	-0.0081	-0.0052	.00042	-0.00388	.33281	-.11964	.00000
2.360	.931	.00153	.04921	.06357	-0.0075	-0.0077	.00041	-0.00311	.74843	-.12274	.00000
2.360	1.950	.00312	.08103	.06398	-0.0065	-0.0064	.00044	-0.0031	1.18162	-.12556	.00000
2.360	4.055	.00536	.14426	.06499	-0.0060	-0.0053	.00049	-0.00304	1.85662	-.13421	.00000
2.360	6.245	.00731	.20942	.06562	-0.0060	-0.0059	.00041	-0.00271	2.28431	-.14268	.00000
2.360	8.348	.00778	.27296	.06576	-0.0052	-0.0059	.00044	-0.00256	2.48841	-.15118	.00000
2.360	12.713	.01071	.40617	.06579	-0.0047	-0.0054	.00064	-0.0024	2.48587	-.16552	.00000
2.360	16.858	.01414	.54423	.06508	-0.0045	-0.0053	.00073	-0.0022	2.28054	-.17405	.00000
2.360	21.213	.01635	.68325	.06325	-0.0035	-0.0047	.00068	-0.00137	2.07955	-.17112	.00000
2.360	26.577	.02353	.88212	.06203	-0.00240	-0.0036	.00036	-0.00165	1.69566	-.18830	.00000
2.360	31.871	.02897	1.08613	.06055	-0.00265	-0.0028	.00038	-0.00154	1.42488	-.19678	.00000
2.360	GRADIENT	.04466	.03010	.04055	-.04495	-.04003	.04442	-0.00052	.40974	-.00303	.00000

RUN NO. 19/0 RVL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
2.360	-4.471	-0.0137	-1.1418	.05744	-0.00165	-0.0001	-.00019	.00000	-1.52001	-.09062	.00000
2.360	-2.213	-.00163	-.04693	.05835	-0.00300	-0.0025	-.00017	.00022	-.74089	-.09058	.00000
2.360	-1.011	.00079	-.01449	.05879	-0.00360	-0.0020	-.00012	-.00089	-.22767	-.09386	.00000
2.360	-.003	.00064	.01135	.05931	-0.00411	-0.0015	-.00002	-.00080	.17475	-.09387	.00000
2.360	1.002	.00227	.03516	.05962	-0.00462	-0.0016	-.00009	-.00020	.56542	-.09709	.00000
2.360	2.008	.00423	.05997	.05995	-0.00489	-0.0011	-.00005	-.00013	.93610	-.09721	.00000
2.360	4.061	.00767	.11312	.06045	-0.00580	-0.0009	-.00005	-.00063	1.58848	-.10442	.00000
2.360	6.139	.01405	.22352	.06048	-0.00655	-0.00040	-.00003	-.00088	2.09187	-.11034	.00000
2.360	8.275	.02552	.34739	.06031	-0.00750	-0.0001	.00003	-.00014	2.34447	-.10655	.00000
2.360	12.715	.04744	.46617	.06009	-0.00805	-.00009	.00009	-.00066	2.41107	-.11657	.00000
2.360	16.671	.07124	.61134	.05918	-0.00827	-0.00043	.00017	-.00092	2.24434	-.11568	.00000
2.360	21.082	.09401	.79173	.05901	-0.00858	-.00016	-.00002	-.00112	1.99514	-.11645	.00000
2.360	26.359	.09793	.99144	.05903	-0.00871	-0.00016	.00025	-.00148	1.68705	-.12627	.00000
2.360	31.662	.02233	.99144	.05903	-0.00871	-0.00016	.00025	-.00148	1.42448	-.13269	.00000
2.360	37.027	.02672	1.19598	.05593	-0.00820	-0.00020	.00011	-.00159	1.20431	-.12627	.00000
2.360	42.085	.03052	1.39647	.05146	-0.0067	-.00026	.00000	-.00264	1.02848	-.11648	.00000
2.360	GRADIENT	.00033	.02534	.04036	-.04448	-.00004	.04002	-0.00047	.37105	-.00124	.00000

LA-10 LARC UPWT 1015 LO-100 CTS. (SHIPS) (BMEVFB)

(RP0007) ( 06 SEP 75 )

## REFERENCE DATA

SREF = 171.4720 SQ. IN. XREF = 16.8366 INCHES  
 LREF = 25.5150 INCHES YREF = .0000 INCHES  
 BREF = 20.3397 INCHES ZREF = .0000 INCHES  
 SCALE = .0188 SCALE

## PARAMETRIC DATA

BETA = .000 WINGNO = 2.000  
 LANDAF = 70.000 ELEVTR = .000  
 BOFLAP = .000 RUDEFLR = .000

RUN NO. 20/ 0 RN/L = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
3.960	-4.128	.00096	-.06606	.05191	-.00285	.00058	-.00037	.00134	-1.41618	-.05466	.00000
3.960	-2.014	.00048	-.04424	.05124	-.00275	.00053	-.00034	.00031	-.80384	-.05724	.00000
3.960	-.872	.00120	-.02246	.05097	-.00213	.00057	-.00033	-.00019	-.42260	-.05725	.00000
3.960	.350	.00129	.00238	.05094	-.00232	.00048	-.00021	-.00067	.04059	-.05724	.00000
3.960	1.118	.00263	.01794	.05087	-.00212	.00044	-.00029	-.00122	.33102	-.05725	.00000
3.960	2.216	.00247	.03810	.05081	-.00196	.00044	-.00029	-.00113	.69111	-.05726	.00000
3.960	4.230	.00301	.07826	.05059	-.00153	.00034	-.00027	-.00155	1.32165	-.05725	.00000
3.960	6.332	.00439	.12453	.05074	-.00117	.00016	-.00023	-.00256	1.84177	-.05725	.00000
3.960	8.555	.00576	.17221	.05115	-.00102	.00003	-.00020	-.00355	2.13811	-.05988	.00000
3.960	12.921	.00801	.27684	.05217	-.00086	-.00038	-.00022	-.00549	2.28959	-.06249	.00000
3.960	17.107	.01248	.38865	.05353	-.00086	-.00079	-.00014	-.00771	2.14949	-.06507	.00000
3.960	21.351	.01733	.52176	.05483	-.00194	-.00102	-.00015	-.01054	1.93236	-.06509	.00000
3.960	26.700	.02329	.70329	.05659	-.00463	-.00134	-.00023	-.01407	1.64468	-.06509	.00000
3.960	32.040	.02732	.90104	.05781	-.00792	-.00185	-.00030	-.01747	1.39314	-.06248	.00000
3.960	37.520	.03270	1.12073	.05766	-.01272	-.00236	-.00014	-.02142	1.17230	-.05988	.00000
3.960	42.695	.03854	1.32758	.05517	-.01846	-.00270	-.00039	-.02605	.99756	-.05463	.00000
GRADIENT		.00048	.01966	-.00014	.00016	-.00003	.00001	-.00035	.33486	-.00024	.00000

RUN NO. 21/ 0 RN/L = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
4.630	-3.944	.00036	-.08151	.04932	-.00283	.00090	-.00059	.00102	-1.39495	-.04033	.00000
4.630	-1.890	.00100	-.04219	.04953	-.00252	.00084	-.00056	.00043	-.79767	-.04033	.00000
4.630	-.712	.00025	-.02150	.04919	-.00226	.00067	-.00043	.00056	-.40234	-.04033	.00000
4.630	.414	.00102	-.00079	.04893	-.00174	.00078	-.00041	-.00011	-.02333	-.04363	.00000
4.630	1.435	.00181	.01695	.04884	-.00144	.00078	-.00040	-.00003	.31920	-.04363	.00000
4.630	2.393	.00225	.03467	.04864	-.00114	.00072	-.00031	-.00074	.65159	-.04033	.00000
4.630	4.563	.00285	.07379	.04835	-.00019	.00050	-.00046	-.00132	1.28949	-.04363	.00000
4.630	6.548	.00345	.11490	.04865	.00026	.00038	-.00046	-.00190	1.76769	-.04360	.00000
4.630	8.669	.00400	.16168	.04883	.00111	.00015	-.00043	-.00244	2.19911	-.04693	.00000
4.630	12.966	.00749	.25697	.04932	.00158	-.00013	-.00048	-.00506	2.26407	-.04693	.00000
4.630	17.191	.01027	.36868	.05072	.00150	-.00064	-.00040	-.00723	2.14218	-.05024	.00000
4.630	21.369	.01301	.49159	.05267	.00237	-.00105	-.00031	-.00944	1.92230	-.05024	.00000
4.630	26.637	.01634	.66788	.05415	-.00237	-.00151	-.00020	-.01255	1.64651	-.04693	.00000
4.630	31.896	.01994	.89719	.05496	-.00737	-.00198	-.00006	-.01637	1.39911	-.04363	.00000
4.630	37.338	.02463	1.06521	.05514	-.01296	-.00228	.00006	-.02119	1.17949	-.04033	.00000
4.630	42.340	.02914	1.25965	.05216	-.01977	-.00264	.00033	-.02479	1.01169	-.03372	.00000
GRADIENT		.00029	.01819	-.00022	.00032	-.00014	.00001	-.00027	.32149	-.00038	.00000

DATE 21 SEP 73

TABULATED SOURCE DATA UPWT-1015

LA-10 LARC UPWT 1015 LO-100 ORB. (SHIPS) (BMEVFB)

(R08008) ( 06 SEP 73 )

REFERENCE DATA

REF = 171.4720 S9.1N. XMRP = 16.8366 INCHES  
 LREF = 25.5100 INCHES YMRP = .0000 INCHES  
 BREF = 20.3597 INCHES ZMRP = .0000 INCHES  
 SCALE = .0168 SCALE

BETA = .000 WINGNO = 2.000  
 LANDAF = 75.000 ELEVTR = .000  
 BOFLAP = .000 RUFLR = .000

PARAMETRIC DATA

RUN NO. 13/ 0 RVL = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CFB	CPC
2.360	-4.627	-0.1569	-0.12339	.05880	-.00148	-.00043	.00000	-.00134	-1.72455	-.10893	.00000
2.360	-2.422	-0.01882	-.05122	.06022	-.00325	-.00063	.00006	-.00026	-.78015	-.11237	.00000
2.360	-1.179	-0.01537	-.01272	.06101	-.00436	-.00063	.00017	-.00208	-.18705	-.11397	.00000
2.360	-.117	-0.01275	.01675	.06165	-.00321	-.00081	.00006	-.00279	.27588	-.11585	.00000
2.360	.954	-0.01183	.04730	.06221	-.00360	-.00075	.00015	-.00345	.73443	-.12096	.00000
2.360	1.929	-0.01043	.07254	.06275	-.00662	-.00070	.00017	-.00413	1.16875	-.12443	.00000
2.360	4.164	-0.00765	.14574	.06385	-.00813	-.00097	.00021	-.00544	1.90745	-.13306	.00000
2.360	6.317	-0.00486	.21141	.06422	-.00935	-.00118	.00026	-.00679	2.53587	-.14150	.00000
2.360	8.577	-0.00330	.27079	.06415	-.01051	-.00133	.00044	-.00806	2.51220	-.15012	.00000
2.360	13.126	.00021	.37760	.06336	-.01254	-.00164	.00053	-.01065	2.26286	-.17410	.00000
2.360	17.482	.00044	.44113	.06308	-.01363	-.00189	.00062	-.01283	1.97671	-.18273	.00000
2.360	21.916	.00074	.51003	.06167	-.01402	-.00211	.00045	-.01537	1.65031	-.18783	.00000
2.360	27.462	.00134	.58124	.05822	-.01661	-.00235	.00031	-.01897	1.46229	-.19644	.00000
2.360	31.174	.00210	.65342	.05909	-.01970	-.00235	.00042	-.02268	.42083	-.02276	.00000
GRADIENT		.00314	.73345	.06458	-.02475	-.00305	.00052	-.02455			

RUN NO. 15/ 0 RVL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CFB	CPC
2.660	-4.413	.00011	-0.10892	.05592	-.00209	-.00004	-.00031	.00096	-1.55972	-.08682	.00000
2.660	-2.236	.00096	-.04791	.05763	-.00297	-.00015	-.00014	-.00028	-.76733	-.08694	.00000
2.660	-1.178	.00171	-.02094	.05789	-.00351	-.00015	-.00012	-.00092	-.33873	-.09010	.00000
2.660	-.075	.00242	.04796	.05821	-.00407	-.00010	-.00010	-.00155	.13818	-.09016	.00000
2.660	.980	.00314	.13511	.05872	-.00413	-.00006	-.00008	-.00218	.57484	-.09337	.00000
2.660	1.928	.00350	.20518	.05839	-.00440	-.00029	-.00018	-.00259	.92214	-.09332	.00000
2.660	4.051	.00441	.31519	.05844	-.00490	-.00079	-.00014	-.00336	1.64189	-.09637	.00000
2.660	6.118	.00493	.41720	.05894	-.00539	-.00145	-.00030	-.00387	2.11624	-.09962	.00000
2.660	8.247	.00634	.52897	.05968	-.00676	-.00057	.00003	-.00514	2.37251	-.11609	.00000
2.660	12.634	.00761	.65179	.05948	-.00724	-.00097	.00013	-.00684	2.44667	-.11590	.00000
2.660	16.776	.01121	.74411	.05924	-.00784	-.00141	.00019	-.00704	2.25683	-.11920	.00000
2.660	21.048	.01587	.81520	.05920	-.00873	-.00176	.00017	-.00825	2.04530	-.12233	.00000
2.660	26.362	.01973	.86358	.05924	-.00993	-.00239	.00014	-.00839	1.69243	-.12886	.00000
2.660	31.431	.02265	.90619	.05827	-.01426	-.00239	.00014	-.00839	1.43996	-.13533	.00000
2.660	36.927	.02757	1.21600	.05533	-.01852	-.00253	.00028	-.00244	1.21077	-.12563	.00000
2.660	42.175	.03126	1.41511	.05082	-.02274	-.00294	.00067	-.02646	1.02720	-.11590	.00000
GRADIENT		.00051	.02620	.06031	-.02333	-.00303	.00053	-.02050	.38571	-.00122	

DATE 21 SEP 73

TABULATED SOURCE DATA UPWT-1015

LA-10 LARC UPWT 1015 LO-100 ORB. (SHIPS) (SHLEVFB)

(RP0008) ( 06 SEP 73 )

PARAMETRIC DATA

REFERENCE DATA

SREF = 171.4720 SQ. IN. XRRP = 16.8366 INCHES  
 LREF = 23.5100 INCHES YRRP = .0000 INCHES  
 BREF = 20.3397 INCHES ZRRP = .0000 INCHES  
 SCALE = .0188 SCALE

BETA = .0000 WINGNO = 2.000  
 LANDAF = 75.000 ELEVTR = .000  
 BOFLAP = .000 RUDFLR = .000

RUN NO. 16/ 0 RV/L = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
3.960	-4.159	-.00004	-.00014	.05204	-.00339	.00096	-.00008	.00132	-1.43957	-.05418	.00000
3.960	-1.988	-.00039	-.04509	.05128	-.00292	.00056	-.00037	.00151	-.81950	-.05681	.00000
3.960	-.849	.00031	-.02152	.05105	-.00262	.00057	-.00035	.00102	-.40431	-.05681	.00000
3.960	.135	.00112	-.00106	.05107	-.00228	.00053	-.00033	.00051	-.02321	-.05679	.00000
3.960	1.219	.00174	.01937	.05091	-.00212	.00053	-.00032	-.00001	.35623	-.05678	.00000
3.960	2.163	.00158	.03813	.05095	-.00177	.00048	-.00031	.00006	.69095	-.05680	.00000
3.960	4.305	.00355	.08269	.05076	-.00102	.00039	-.00038	-.00094	1.38414	-.05680	.00000
3.960	6.368	.00405	.12865	.05096	-.00066	.00030	-.00036	-.00134	1.88241	-.05942	.00000
3.960	8.531	.00540	.17629	.05126	-.00013	.00007	-.00032	-.00233	2.16978	-.05941	.00000
3.960	12.870	.02802	.28062	.05231	.00061	-.00142	-.00024	-.00428	2.30771	-.06203	.00000
3.960	17.184	.01230	.39855	.05383	.00090	-.00096	-.00014	-.00738	2.15669	-.06463	.00000
3.960	21.450	.01676	.53448	.05504	.00032	-.00137	-.00025	-.00985	1.93506	-.06724	.00000
3.960	26.823	.02299	.72280	.05650	.00169	-.00169	-.00022	-.01394	1.64501	-.06463	.00000
3.960	32.165	.02748	.92811	.05782	-.00419	-.00116	-.00009	-.01717	1.39015	-.06204	.00000
3.960	37.513	.03373	1.14252	.05746	-.00766	-.00212	.00006	-.02143	1.17535	-.05943	.00000
3.960	42.732	.03743	1.35442	.05449	-.01279	-.00294	.00050	-.02511	.99875	-.05157	.00000
3.960	GRADIENT	.00044	.02323	-.00014	.00428	-.00002	.00000	-.00029	.34247	-.00024	.00000

RUN NO. 17/ 0 RV/L = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
4.630	-3.971	.00007	-.06303	.05038	-.00304	.00079	-.00074	.00251	-1.41851	-.03981	.00000
4.630	-1.796	.00011	-.04318	.04971	-.00273	.00073	-.00059	.00195	-.81512	-.03981	.00000
4.630	-.682	.00086	-.02130	.04848	-.00248	.00073	-.00057	.00129	-.41690	-.03977	.00000
4.630	.367	.00130	-.00123	.04918	-.00196	.00062	-.00069	.00136	-.03150	-.04307	.00000
4.630	1.414	.00117	.01680	.04885	-.00145	.00067	-.00069	.00145	.35670	-.03977	.00000
4.630	2.389	.00193	.03661	.04884	-.00092	.00061	-.00067	.00078	.68629	-.03981	.00000
4.630	4.417	.00254	.07336	.04885	.00006	.00050	-.00064	.00019	1.27651	-.03981	.00000
4.630	6.545	.00371	.11594	.04887	.00096	.00033	-.00075	-.00240	1.77468	-.04311	.00000
4.630	8.646	.00516	.16233	.04914	.00157	.00021	-.00070	-.00171	2.09761	-.04311	.00000
4.630	12.991	.00709	.26333	.04993	.00293	-.00024	-.00063	-.00354	2.27451	-.04638	.00000
4.630	17.123	.00988	.37123	.05118	.00314	-.00081	-.00054	-.00612	2.14872	-.04638	.00000
4.630	21.262	.01346	.49830	.04990	.00282	-.00017	-.00043	-.00939	1.93567	-.04968	.00000
4.630	26.739	.01670	.65322	.05411	.00224	-.00177	-.00031	-.01244	1.64638	-.04307	.00000
4.630	31.840	.02090	.87131	.05489	-.00403	-.00214	-.00019	-.01616	1.40459	-.04311	.00000
4.630	37.284	.02492	1.08226	.05482	-.00856	-.00261	-.00046	-.01957	1.18486	-.03647	.00000
4.630	42.433	.02998	1.28467	.05097	-.01511	-.00280	.00007	-.02382	1.01037	-.02986	.00000
4.630	GRADIENT	.00031	.01876	-.00019	.00439	-.00003	.00000	-.00026	.33060	-.00000	.00000

DATE 21 SEP 73

TABULATED SOURCE DATA UPWT-1015  
LA-10 LARC UPWT 1015 LO-100 CRB. (SHIPS) (B-EVFB)

(RP00019) ( 06 SEP 73 )

REFERENCE DATA

SREF = 171.4720 SQ. IN. XREF = 16.8366 INCHES  
LREF = 25.3100 INCHES YREF = 14.10 INCHES  
BREF = 20.3397 INCHES ZREF = 0.0000 INCHES  
SCALE = 0.0000 SCALE

BETA = 3.000 WINDNO = 2.000  
LANDAF = 75.000 ELEVTR = .000  
BOFLAP = .000 RUFLR = .000

PARAMETRIC DATA

RUN NO. 14/ 0 RN/L = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MAC	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CT	L/D	CPB	CPC
2.360	-4.714	3.12451	-.12615	.05905	-.00166	-.00182	-.00031	-.04802	-1.77088	-.10891	.00000
2.360	-2.452	3.12253	-.05296	.06366	-.00371	-.00197	-.00038	-.04692	-.80166	-.11241	.00000
2.360	-1.218	3.12158	-.01844	.06125	-.00464	-.00191	-.00032	-.04603	-.27806	-.11410	.00000
2.360	-.127	3.12150	.01614	.06193	-.00532	-.00194	-.00066	-.04550	.26305	-.11931	.00000
2.360	1.004	3.12140	.04971	.06229	-.00598	-.00211	-.00079	-.04496	.76976	-.12455	.00000
2.360	1.566	3.12109	.07802	.06279	-.00671	-.00218	-.00079	-.04486	1.15868	-.12965	.00000
2.360	4.152	3.12201	.14561	.06353	-.00822	-.00276	-.00097	-.04468	1.90288	-.13810	.00000
2.360	6.297	3.12352	.20911	.06390	-.00942	-.00345	-.00121	-.04445	2.32322	-.14671	.00000
2.360	8.585	3.12603	.27986	.06390	-.01099	-.00443	-.00136	-.04497	2.54566	-.15189	.00000
2.360	13.084	3.13459	.42103	.06383	-.01257	-.00591	-.00165	-.04756	2.51241	-.16729	.00000
2.360	17.498	3.14114	.56824	.06326	-.01381	-.00738	-.00215	-.04852	2.27196	-.17760	.00000
2.360	22.002	3.15082	.72511	.06126	-.01485	-.00931	-.00283	-.05019	1.97695	-.18107	.00000
2.360	27.475	3.16619	.92145	.05957	-.01752	-.01033	-.00441	-.05115	-.65264	-.18620	.00000
2.360	31.204	3.17917	1.09856	.05731	-.01955	-.01029	-.00542	-.05312	1.46575	-.19126	.00000
2.360	GRADIENT	-.00029	.00071	.00150	-.00072	-.00009	-.00008	.00040	.42394	-.00346	.00000



LA-10 LARC UPM 1015 LO-100 ORB. (SHIPS) (BAEVEB) (RP0010) ( 06 SEP 73 )

## REFERENCE DATA

SRP = 171.4720 SA.IN. XMRP = 16.8366 INCHES  
 LREF = 25.5100 INCHES YMRP = .0000 INCHES  
 BRP = 20.3597 INCHES ZMRP = .0000 INCHES  
 SCALE = .0188 SCALE

## PARAMETRIC DATA

BETA = .000 MINMO = 2.000  
 LANDAF = 18.000 ELEVTR = .000  
 BOFLAP = .000 RUFLR = .000

RUN NO. 5/ 0 RV/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CL	CYN	CY	L/D	CPB	CPC
2.360	-4.867	-0.0623	-1.4917	.05925	-0.0265	-0.0045	.00012	.00218	-1.69822	-.0077	.00000
2.360	-2.543	-0.0473	-0.6309	.06168	-0.0402	-0.0060	.00009	.00168	-.95139	-.0594	.00000
2.360	-1.236	-0.0160	-0.2161	.06155	-0.0482	-0.0066	.00008	-.00095	-.32709	-.0753	.00000
2.360	-.142	.00274	.01172	.06293	-0.0574	-0.0063	.00003	-.00124	.18882	-.11647	.00000
2.360	1.553	.00140	.04320	.06283	-0.0618	-0.0067	.00008	-.00030	.69187	-.11469	.00000
2.360	1.954	.00291	.07551	.06324	-0.0679	-0.0087	.00005	-.00139	1.06536	-.11641	.00000
2.360	4.249	.00562	.14736	.06430	-0.0774	-0.0091	.00009	-.00268	1.89498	-.12830	.00000
2.360	6.330	.00872	.25985	.06491	-0.0841	-0.0100	.00021	-.00439	2.29802	-.13528	.00000
2.360	7.592	.01015	.24849	.06481	-0.0892	-0.0107	.00024	-.00503	2.44924	-.14029	.00000
2.360	13.167	.01640	.42748	.06490	-0.0939	-0.0134	.00028	-.00784	2.50315	-.15751	.00000
2.360	17.541	.02273	.57658	.06356	-0.0877	-0.0162	.00025	-.01038	2.26392	-.16428	.00000
2.360	22.027	.03265	.73319	.06246	-0.0811	-0.0215	.00011	-.01397	1.97146	-.17640	.00000
2.360	26.678	.04269	.94820	.06303	-0.0878	-0.0221	-.00031	-.01583	1.63768	-.19416	.00000
2.360	27.689	.04072	.93850	.06165	-0.0911	-0.0234	-.00041	-.01538	1.63550	-.19177	.00000
2.360	32.110	.03081	1.11760	.06143	-0.0117	-0.0257	-.00028	-.02300	1.41840	-.19425	.00000
GRADIENT		.00129	.03122	.00056	-0.0057	-0.0005	-.00000	-.00053	.42479	-.00289	.00000

RUN NO. 7/ 0 RV/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CL	CYN	CY	L/D	CPB	CPC
2.860	-4.829	-0.02167	-1.1197	.05688	-0.0303	-0.0015	-.00023	.00213	-1.66867	-.08574	.00000
2.860	-2.340	-0.01873	-0.5505	.05732	-0.0383	-0.0014	-.00019	.00058	-.84937	-.08764	.00000
2.860	-1.194	-0.01725	-0.2315	.05789	-0.0421	-0.0013	-.00017	-.00020	-.37602	-.08961	.00000
2.860	-.095	-0.01666	.00160	.05841	-0.0458	-0.0003	-.00015	-.00053	.09758	-.09163	.00000
2.860	1.030	-0.01634	.03211	.05875	-0.0464	-0.0006	-.00022	-.00044	.52341	-.09353	.00000
2.860	2.037	-0.01484	.05746	.05895	-0.0468	-0.0000	-.00020	-.00123	.90783	-.09546	.00000
2.860	4.116	-0.01282	.11714	.05937	-0.0473	-0.0008	-.00016	-.00232	1.66478	-.09938	.00000
2.860	6.357	-0.00907	.17912	.05920	-0.0481	-0.0005	-.00010	-.00430	2.17945	-.10521	.00000
2.860	8.814	-0.00885	.24009	.05893	-0.0473	-0.0002	-.00008	-.00449	2.42676	-.11102	.00000
2.860	12.926	-0.00299	.36295	.05863	-0.0420	-0.0008	-.00005	-.00755	2.46249	-.11880	.00000
2.860	17.276	.001175	.49819	.05851	-0.0342	-0.0019	-.00014	-.00967	2.24568	-.12070	.00000
2.860	21.612	.00746	.64182	.05852	-0.0297	-0.0144	-.00010	-.01213	1.97780	-.13046	.00000
2.860	27.313	.01729	.84495	.05812	-0.0463	-0.0223	-.00026	-.01599	1.64818	-.13629	.00000
2.860	31.664	.03716	1.02455	.05812	-0.0463	-0.0223	-.00046	-.01976	1.43287	-.13337	.00000
2.860	32.626	.02671	1.04761	.05680	-0.0468	-0.0197	-.00036	-.02003	1.39013	-.13822	.00000
2.860	37.122	.01171	1.23328	.05451	-0.03914	-0.0253	-.00006	-.02342	1.21652	-.13012	.00000
2.860	42.394	.01969	1.44959	.05123	-0.0315	-0.0272	-.00007	-.02705	1.02194	-.12039	.00000
GRADIENT		.00096	.02622	.00030	-0.0020	-0.0003	-.00000	-.00047	.38625	-.00161	.00000

LA-10 LARC UPWT 1015 LO-100 CRB. (SHIPS) (BACVFB)

(RP8010) ( 04 SEP 73 )

## REFERENCE DATA

SREF = 171.4720 SQ.IN. XMRP = 16.8566 INCHES  
 LREF = 25.5100 INCHES YMRP = .0000 INCHES  
 BREF = 20.3397 INCHES ZMRP = .0000 INCHES  
 SCALE = .0168 SCALE

BETA = .000 WINGNO = 2.000  
 LANDAF = 78.000 ELEVTR = .000  
 BDFLAP = .000 RUFLR = .000

## PARAMETRIC DATA

RUN NO. 9/ 0 RVL = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	COL	CYN	CY	L/D	CPB	CPC
3.960	-4.275	-0.00096	-0.09119	.05256	-.00415	.00082	-.00026	.00131	-1.46963	-.06040	.00000
3.960	-1.935	-0.00008	-0.04288	.05181	-.00324	.00062	-.00025	.00093	-.77214	-.06039	.00000
3.960	-.697	.00063	-.02262	.05151	-.00292	.00057	-.00024	.00042	-.42050	-.06039	.00000
3.960	.190	.00042	.00082	.05133	-.00245	.00046	-.00023	.00033	.01260	-.06039	.00000
3.960	1.207	.00171	.02112	.05125	-.00194	.00044	-.00030	.00000	.39763	-.06002	.00000
3.960	2.124	.00246	.03823	.05137	-.00178	.00044	-.00038	-.00052	.68821	-.06300	.00000
3.960	4.350	.00351	.06475	.05082	-.00062	.00039	-.00044	-.00093	1.41234	-.06302	.00000
3.960	6.279	.00547	.08475	.05111	-.00035	.00037	-.00044	-.00194	1.89766	-.06363	.00000
3.960	9.513	.00690	.11924	.05129	.00108	-.00001	-.00041	-.00292	2.19621	-.06563	.00000
3.960	12.673	.01086	.28440	.05216	.00263	-.00087	-.00042	-.00547	2.32573	-.07085	.00000
3.960	17.167	.01481	.40533	.05360	.00418	-.00128	-.00043	-.00796	2.17259	-.07346	.00000
3.960	21.570	.01863	.54324	.05570	.00585	-.00178	-.00052	-.01032	1.93899	-.07346	.00000
3.960	26.832	.02439	.73363	.05636	.00772	-.00229	-.00052	-.01344	1.64953	-.07085	.00000
3.960	32.166	.03003	.93982	.05733	.00972	-.00279	-.00052	-.01774	1.39369	-.06824	.00000
3.960	37.515	.03645	1.15688	.05711	.00998	-.00279	-.00032	-.02167	1.17743	-.06301	.00000
3.960	42.752	.04239	1.37109	.05464	-.00223	-.00317	-.00028	-.02562	1.00054	-.05518	.00000
3.960	GRADIENT	.05055	.02134	-.00018	.00040	-.00044	-.00011	-.00027	.34079	-.00040	.00000

RUN NO. 11/ 0 RVL = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	COL	CYN	CY	L/D	CPB	CPC
4.630	-4.101	.00113	-.08562	.05112	-.00401	.00085	-.00075	.00248	-1.43678	-.04766	.00000
4.630	-1.799	.00073	-.04233	.05014	-.00334	.00079	-.00072	.00192	-.79184	-.04766	.00000
4.630	-.622	.00058	-.02365	.04993	-.00288	.00078	-.00072	.00132	-.41414	-.04766	.00000
4.630	.372	.00111	-.00094	.04975	-.00240	.00078	-.00070	.00135	-.02544	-.04766	.00000
4.630	1.229	.00268	.01495	.04976	-.00163	.00073	-.00081	.00164	.28127	-.05096	.00000
4.630	2.331	.00254	.03470	.04885	-.00114	.00061	-.00080	.00174	.65071	-.05096	.00000
4.630	4.453	.00400	.07584	.04870	.00031	.00050	-.00076	-.00098	1.31955	-.05096	.00000
4.630	6.449	.00518	.11912	.04875	.00287	.00033	-.00086	-.00118	1.77348	-.05096	.00000
4.630	9.680	.00569	.16593	.04915	.00479	.00016	-.00083	-.00170	2.13017	-.05426	.00000
4.630	12.960	.00851	.26550	.04944	.00575	.00030	-.00074	-.00428	2.29883	-.05426	.00000
4.630	17.181	.01163	.37929	.05076	.00701	-.00075	-.00078	-.00684	2.16388	-.05756	.00000
4.630	21.348	.01537	.50333	.05260	.00801	-.00150	-.00082	-.01002	1.94112	-.05756	.00000
4.630	26.690	.01978	.65378	.05362	.00917	-.00219	-.00056	-.01270	1.65662	-.05426	.00000
4.630	32.012	.02321	.89212	.05425	.01217	-.00219	-.00056	-.01612	1.41238	-.05096	.00000
4.630	37.360	.02782	1.11053	.05437	-.00103	-.00244	-.00056	-.01988	1.18381	-.04766	.00000
4.630	42.455	.03282	1.30277	.05032	-.00460	-.00268	-.00042	-.02443	1.01171	-.04107	.00000
4.630	GRADIENT	.04448	.01902	-.00029	.00052	-.00044	-.00001	-.00036	.33192	-.00031	.00000

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TABULATED SOURCE DATA UPWT-1015

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LA-10 LARC UPWT 1015 LO-100 QRB. (SHIPS) (RM2VFB)

(RP0011) ( 06 SEP 73 )

## REFERENCE DATA

SREF = 171.4720 58.1N. XMRP = 16.8366 INCHES  
 LREF = 25.5100 INCHES YMRP = .0000 INCHES  
 BREF = 20.3597 INCHES ZMRP = .0000 INCHES  
 SCALE = .0188 SCALE

## PARAMETRIC DATA

BETA = 3.0000 WINGNO = 2.0000  
 LANDAF = 78.0000 ELEVTR = .0000  
 BDFLAP = .0000 RUFLR = .0000

RUN NO. 6/ D RV/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CLL	CYN	CY	L/D	QFB	QPC
2.360	-4.647	3.05804	-1.13210	.06114	-.00323	-.00129	-.00060	-.04647	-1.76880	-.10668	.00000
2.360	-2.400	3.05690	-.05775	.06241	-.00479	-.00144	-.00062	-.04412	-.85037	-.11465	.00000
2.360	-1.194	3.05347	-.02067	.06291	-.00547	-.00149	-.00075	-.04270	-.30563	-.11743	.00000
2.360	-.138	3.05412	.01303	.06344	-.00610	-.00159	-.00095	-.04322	.20791	-.12027	.00000
2.360	.903	3.05362	.04340	.06381	-.00669	-.00169	-.00095	-.04247	.65725	-.12595	.00000
2.360	1.936	3.05398	.07371	.06411	-.00706	-.00193	-.00095	-.04230	1.07408	-.13185	.00000
2.360	4.017	3.05584	.13934	.06480	-.00787	-.00237	-.00102	-.04341	1.80710	-.14027	.00000
2.360	6.134	3.05469	.20679	.06516	-.00848	-.00309	-.00124	-.04185	2.28633	-.14595	.00000
2.360	8.323	3.05646	.27263	.06480	-.00886	-.00405	-.00130	-.04290	2.51366	-.14879	.00000
2.360	12.827	3.06225	.41771	.06440	-.00923	-.00564	-.00149	-.04626	2.52695	-.16302	.00000
2.360	16.936	3.06590	.55877	.06322	-.00860	-.00732	-.00184	-.04763	2.30939	-.16872	.00000
2.360	21.172	3.07058	.70781	.06258	-.00800	-.00918	-.00276	-.04763	2.03005	-.18016	.00000
2.360	26.659	3.07651	.90758	.06122	-.00826	-.01038	-.00436	-.04728	1.69645	-.19157	.00000
2.360	32.065	3.08331	1.11436	.05937	-.01109	-.01106	-.00502	-.04951	1.42480	-.19443	.00000
2.360	GRADIENT	-.00024	.03111	.00142	-.00151	-.00012	-.00005	.00036	.42116	-.00371	.00000

RUN NO. 8/ D RV/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CLL	CYN	CY	L/D	QFB	QPC
2.860	-4.482	3.04793	-.11155	.05784	-.00350	.00045	-.00183	-.04073	-1.60723	-.09123	.00000
2.860	-2.211	3.04518	-.05028	.05835	-.00426	.00117	-.00171	-.03893	-.79339	-.09451	.00000
2.860	-1.143	3.04500	-.02319	.05852	-.00458	.00111	-.00170	-.03882	-.37340	-.09776	.00000
2.860	-.090	3.04275	.00563	.05892	-.00494	.00127	-.00186	-.03646	.09709	-.10103	.00000
2.860	.970	3.04346	.03367	.05940	-.00501	.00149	-.00184	-.03715	.49844	-.10093	.00000
2.860	1.907	3.04387	.05570	.05921	-.00518	.00176	-.00196	-.03705	.87978	-.10419	.00000
2.860	4.142	3.04341	.11693	.05923	-.00509	.00153	-.00193	-.03676	1.66379	-.11072	.00000
2.860	6.190	3.04446	.17050	.05937	-.00501	.00229	-.00202	-.03727	2.11658	-.11198	.00000
2.860	8.348	3.04482	.23595	.05948	-.00485	.00316	-.00197	-.03776	2.41472	-.11714	.00000
2.860	12.755	3.04646	.36001	.05912	-.00499	.00486	-.00187	-.03937	2.46688	-.12368	.00000
2.860	16.935	3.04946	.48961	.05911	-.00517	.00666	-.00242	-.04185	2.01358	-.13337	.00000
2.860	21.082	3.05205	.62812	.05859	-.00537	.00845	-.00242	-.04185	1.69168	-.13985	.00000
2.860	26.311	3.05976	.81772	.05829	-.00588	.00932	-.00372	-.04306	1.42736	-.13659	.00000
2.860	31.616	3.06238	1.02085	.05723	-.00621	.01026	-.00414	-.04347	1.20856	-.12691	.00000
2.860	37.037	3.06564	1.22714	.05452	-.00694	.01220	-.00481	-.04811	1.02888	-.11716	.00000
2.860	42.163	3.06313	1.43268	.04995	-.00723	.01216	-.00540	-.04670	.38565	-.00224	.00000
2.860	GRADIENT	-.00050	.02630	.00017	-.00119	-.00023	-.00002	.00048			

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TABULATED SOURCE DATA UPWT-1015

(RP0011) ( 06 SEP 73 )

LA-10 LARC UPWT 1015 LO-100 OBB. (SHIPS) (0424FB)

PARAMETRIC DATA

REFERENCE DATA

SREF = 171.4720 SQ.IN. XRRP = 16.0366 INCHES  
 LREF = 25.5120 INCHES YRRP = .0000 INCHES  
 BREF = 20.3597 INCHES ZRRP = .0000 INCHES  
 SCALE = .0188 SCALE

BETA = 3.000 WINGNO = 2.000  
 LANDAF = 70.000 ELEVTR = .000  
 BOFLAP = .000 RUFLR = .000

RUN NO. 10/ 0 RNVL = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
3.960	-4.239	3.06145	-.08217	.05277	-.00455	.00144	-.00384	-.03392	-1.48087	-.05779	.00000
3.960	-1.996	3.07717	-.04678	.05190	-.00377	.00078	-.00365	-.03187	-.84003	-.05779	.00000
3.960	-.894	3.07607	-.02335	.05149	-.00349	.00051	-.00365	-.03117	-.43489	-.06040	.00000
3.960	.176	3.07437	-.00140	.05132	-.00300	.00020	-.00355	-.03043	-.03039	-.06040	.00000
3.960	1.203	3.07329	.01892	.05104	-.00268	-.00002	-.00355	-.02973	.34710	-.06040	.00000
3.960	2.225	3.07308	.03927	.05096	-.00217	-.00028	-.00354	-.02963	.71051	-.06302	.00000
3.960	4.320	3.07144	.06284	.05079	-.00116	-.00094	-.00331	-.02838	1.36477	-.06563	.00000
3.960	6.305	3.07096	.12797	.05085	-.00017	-.00165	-.00329	-.02915	1.87643	-.06563	.00000
3.960	8.545	3.07157	.17778	.05092	.00076	-.00257	-.00313	-.03009	2.19152	-.06824	.00000
3.960	12.790	3.07161	.28168	.05186	.00216	-.00416	-.00295	-.03075	2.33067	-.07085	.00000
3.960	17.193	3.07498	.40468	.05345	.00325	-.00579	-.00304	-.03258	2.17249	-.07085	.00000
3.960	21.367	3.07921	.53962	.05461	.00377	-.00684	-.00347	-.03376	1.94864	-.07346	.00000
3.960	26.767	3.08306	.72865	.05626	.00346	-.00777	-.00408	-.03509	1.63237	-.07085	.00000
3.960	32.197	3.09019	.93868	.05733	.00229	-.00972	-.00378	-.03820	1.39204	-.06563	.00000
3.960	37.610	3.09336	1.15991	.05726	.00053	-.01172	-.00317	-.04338	1.17349	-.06141	.00000
3.960	42.770	3.09611	1.37141	.05590	-.00264	-.01232	-.00293	-.04599	.99926	-.04996	.00000
GRADIENT		-.00114	.02142	-.00023	.00039	-.00027	.00005	.00054	.34256	-.00093	.00000

RUN NO. 12/ 0 RNVL = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
4.630	-4.033	3.04697	-.08452	.05106	-.00426	.00159	-.00439	-.03189	-1.41927	-.04766	.00000
4.630	-1.770	3.04429	-.04107	.04993	-.00337	.00109	-.00428	-.03015	-.77194	-.04766	.00000
4.630	-.720	3.04268	-.02327	.04953	-.00310	.00081	-.00415	-.02928	-.45464	-.05096	.00000
4.630	.341	3.04147	-.00145	.04915	-.00240	.00053	-.00414	-.02917	-.03546	-.05096	.00000
4.630	1.401	3.04147	.01639	.04976	-.00189	.00037	-.00415	-.02832	.30909	-.05096	.00000
4.630	2.402	3.04172	.03618	.04947	-.00140	.00023	-.00401	-.02820	.68304	-.05096	.00000
4.630	4.492	3.04136	.07556	.04918	.00008	-.00063	-.00398	-.02799	1.32829	-.05096	.00000
4.630	6.513	3.03940	.11879	.04846	.00128	-.00136	-.00383	-.02775	1.83884	-.05426	.00000
4.630	8.612	3.03988	.16397	.04898	.00221	-.00219	-.00379	-.02828	2.13429	-.05426	.00000
4.630	12.959	3.03870	.26581	.04898	.00437	-.00370	-.00346	-.02848	2.31088	-.05426	.00000
4.630	17.138	3.03952	.37796	.04927	.00537	-.00514	-.00337	-.02945	2.17072	-.05426	.00000
4.630	21.389	3.04233	.51479	.05195	.00561	-.00615	-.00354	-.03110	1.94441	-.05756	.00000
4.630	26.645	3.04628	.68900	.05329	.00437	-.00749	-.00381	-.03299	1.65981	-.05426	.00000
4.630	32.144	3.04890	.89155	.05417	.00184	-.00945	-.00311	-.03696	1.40088	-.05096	.00000
4.630	37.360	3.05189	1.11438	.05427	-.00111	-.01197	-.00267	-.04125	1.18404	-.04436	.00000
4.630	42.509	3.05353	1.30246	.04957	-.00684	-.01144	-.00243	-.04043	1.01093	-.03447	.00000
GRADIENT		-.00079	.01879	-.00034	.00049	-.00026	.00005	.00046	.32998	-.00045	.00000

DATE 21 SEP 73

TABULATED SOURCE DATA UPMT-1015

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LA-10 LARC UPMT 1015 LO-100 ORB. (SHIPS) (SLAFVFB)

(RP0012) ( 06 SEP 73 )

## REFERENCE DATA

SREF = 171.4720 SQ. IN. XPRP = 16.8366 INCHES  
 LREF = 25.5110 INCHES YMRP = .0000 INCHES  
 BREF = 20.3597 INCHES ZMRP = .0000 INCHES  
 SCALE = .0100 SCALE

RUN NO. 46/ 0 RNL = 1.51 GRADIENT INTERVAL = -5.00/ 5.00

## PARAMETRIC DATA

BETA = .000 WINGAO = 2.000  
 LANDAF = 75.000 ELEVTR = .000  
 BDFLAP = .000 RUOFPLR = 40.000

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	QPC
2.360	-4.525	-0.1977	-0.13756	.08129	.00760	-.00055	-.00026	.00151	-1.42259	-.15747	-.19943
2.360	-2.312	-0.0049	-0.06728	.08130	.00551	-.00065	-.00038	.00240	-.76165	-.16037	-.19949
2.360	-1.217	-0.01982	-0.03220	.08156	.00447	-.00070	-.00036	.00168	-.37046	-.16028	-.19939
2.360	-1.112	-0.01766	-0.02779	.08204	.00301	-.00071	-.00044	.00066	.03599	-.16037	-.19949
2.360	.916	-0.01931	.03129	.08204	.00206	-.00076	-.00034	.00145	.36246	-.16296	-.16206
2.360	1.694	-0.01796	.05790	.08237	.00191	-.00057	-.00044	.00096	.65468	-.16569	-.16498
2.360	4.120	-0.01661	.12827	.08279	-.00119	-.00053	-.00040	-.00020	1.32892	-.17440	-.17062
2.360	6.128	-0.01611	.19682	.08271	-.00292	-.00082	-.00037	-.00064	1.73155	-.18017	-.17637
2.360	8.332	-0.01447	.25362	.08218	-.00437	-.00079	-.00022	-.00234	2.02461	-.18591	-.17925
2.360	12.720	-0.01332	.39798	.08075	-.00640	-.00092	-.00008	-.00376	2.19656	-.20594	-.18775
2.360	16.928	-0.01364	.52030	.07517	-.00759	-.00090	.00015	-.00490	2.13198	-.18597	-.18499
2.360	21.141	-0.01082	.66446	.07368	-.00816	-.00084	.00032	-.00717	1.92354	-.20020	-.19345
2.360	26.564	-0.00799	.82035	.06838	-.00971	-.00063	.00101	-.01157	1.65428	-.19162	-.19345
2.360	31.621	-0.00475	1.04109	.05878	-.01420	-.00041	.00074	-.01289	1.42537	-.18597	-.19380
2.360	37.192	-0.00053	1.24657	.05112	-.01855	-.000295	.00184	-.02041	1.21138	-.16045	-.14540
2.360	42.047	.00109	1.21818	.03231	-.00795	-.00132	.00008	-.01470	1.05136	-.02674	-.01340
2.360	GRADIENT	.00040	.03053	.00019	-.00105	.00000	-.00001	-.00025	.32294	-.00180	-.00129

RUN NO. 48/ 0 RNL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	QPC
2.360	-4.455	.00058	-0.11620	.07436	.00388	.00008	-.00064	.00244	-1.32110	-.12025	-.12226
2.360	-2.231	.00112	-0.06675	.07433	.00296	.00002	-.00081	.00193	-.70357	-.12345	-.12546
2.360	-1.149	.00185	-0.02809	.07419	.00239	.00007	-.00079	.00129	-.35583	-.12671	-.12547
2.360	-.055	.00229	-0.00128	.07393	.00218	.00012	-.00092	.00137	-.01630	-.12343	-.12544
2.360	.901	.00244	.02363	.07373	.00179	.00012	-.00077	.00075	.30164	-.12669	-.12545
2.360	1.927	.00317	.05042	.07368	.00147	.00011	-.00075	.00011	.63602	-.12671	-.12547
2.360	4.082	.00434	.10211	.07322	.00088	.00011	-.00066	-.00046	1.20550	-.12997	-.12872
2.360	6.115	.00339	.16151	.07303	.00018	-.00001	-.00072	-.00019	1.70140	-.13321	-.13194
2.360	8.280	.00481	.22184	.07250	-.00053	-.00002	-.00068	-.00145	2.00970	-.13643	-.13516
2.360	12.605	.00646	.33962	.07097	-.00191	-.00011	-.00039	-.00393	2.20378	-.14615	-.14161
2.360	16.833	.00776	.46388	.06806	-.00314	-.00025	-.00024	-.00566	2.11523	-.14617	-.14163
2.360	20.972	.00901	.59786	.06753	-.00430	-.00023	-.00008	-.00735	1.92784	-.14941	-.14485
2.360	26.361	.01204	.77989	.06387	-.00704	-.00026	.00070	-.01250	1.66016	-.14617	-.14486
2.360	31.573	.01627	.97128	.05792	-.01133	-.00016	.00041	-.01485	1.42889	-.13969	-.12224
2.360	36.936	.02107	1.16495	.05045	-.01506	-.00001	-.00002	-.01721	1.21672	-.12671	-.08345
2.360	42.033	.03007	1.31722	.04344	-.01444	.00000	.00072	-.02693	1.05835	-.09429	-.07055
2.360	GRADIENT	.00044	.02565	-.00014	-.00055	.00001	.00000	-.00035	.30271	-.00102	-.00056

LA-10 LARC UPMT 1015 LO-100 ORB. (SHIPS) (B&amp;VFB)

(RP8012) ( 06 SEP 73 )

## REFERENCE DATA

SREF = 171.4720 SQ. IN. XMRP = 16.8366 INCHES  
 UREF = 25.5100 INCHES YMRP = .0000 INCHES  
 BREF = 20.3597 INCHES ZMRP = .0000 INCHES  
 SCALE = .0188 SCALE

## PARAMETRIC DATA

BETA = .000 MINNO = 2.000  
 LANDAF = 75.000 ELEVTR = .000  
 BOFLAP = .000 RUOFPLR = 40.000

RUN NO. 50/ 0 RVL = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
3.960	-4.208	-.01733	-.09396	.06324	.00177	.00063	-.00068	.00134	-1.27908	-.07078	-.07291
3.960	-2.028	-.01736	-.09360	.06162	.00184	.00082	-.00055	.00094	-.76346	-.07339	-.07492
3.960	-.911	-.01754	-.02886	.06077	.00197	.00058	-.00055	.00103	-.45564	-.07340	-.07492
3.960	.165	-.01771	-.00564	.06043	.00207	.00066	-.00055	.00113	-.09626	-.07339	-.07492
3.960	1.233	-.01697	.01445	.06007	.00203	.00070	-.00053	.00061	.21794	-.07600	-.07492
3.960	2.168	-.01624	.03308	.05956	.00219	.00066	-.00051	.00029	.90690	-.07600	-.07492
3.960	4.334	-.01659	.07503	.05922	.00266	.00061	-.00050	.00028	1.06681	-.07600	-.07492
3.960	6.360	-.01549	.12105	.05906	.00289	.00043	-.00058	-.00015	1.56625	-.07600	-.07752
3.960	8.531	-.01647	.16805	.05888	.00326	.00034	-.00047	.00008	1.89355	-.07600	-.07752
3.960	12.881	-.01435	.26873	.05811	.00359	.00013	-.00033	-.00188	2.13651	-.07861	-.07752
3.960	17.094	-.01230	.36129	.05795	.00319	-.00003	-.00020	-.00381	2.07455	-.07862	-.08013
3.960	21.313	-.00948	.51069	.05787	.00271	-.00014	-.00004	-.00627	1.89847	-.07862	-.07752
3.960	26.737	-.00583	.69149	.05681	.00180	-.00017	.00026	-.00573	1.62558	-.07862	-.08013
3.960	32.036	-.00290	.88758	.05781	-.00210	-.00041	.00071	-.01311	1.36844	-.07862	-.07752
3.960	37.496	.00373	1.09850	.05693	-.00663	.00025	.00017	-.01550	1.17239	-.07862	-.07752
3.960	42.645	.02844	1.30629	.05502	-.01089	.00020	.00029	-.01893	.99800	-.07801	-.07753
	GRADIENT	.00113	.01984	-.00047	.00010	.00020	.00012	-.00014	.28290	-.07864	-.07804

RUN NO. 52/ 0 RVL = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
4.630	-3.967	.00224	-.08633	.09939	.00256	.00085	-.00098	.00176	-1.25743	-.05415	-.05604
4.630	-1.776	.00179	-.04508	.05717	.00184	.00085	-.00098	.00194	-.73954	-.05415	-.05604
4.630	-.646	.00196	-.02547	.05633	.00187	.00079	-.00083	.00128	-.43870	-.05415	-.05604
4.630	.366	.00183	-.00580	.05580	.00113	.00079	-.00082	.00137	-.11034	-.05746	-.05604
4.630	1.412	.00259	.01367	.05520	.00140	.00078	-.00080	.00070	.22514	-.05415	-.05604
4.630	2.386	.00247	.03159	.05475	.00169	.00078	-.00080	.00078	.52276	-.05746	-.05604
4.630	4.432	.00369	.07100	.05415	.00245	.00078	-.00081	.00017	1.11983	-.05746	-.05604
4.630	6.493	.00342	.11044	.05352	.00322	.00072	-.00080	.00035	1.57897	-.05746	-.05934
4.630	8.749	.00398	.15956	.05323	.00409	.00066	-.00087	-.00019	1.94602	-.05746	-.05934
4.630	12.955	.00541	.25375	.05287	.00472	.00040	-.00072	-.00205	2.17178	-.05746	-.05934
4.630	17.114	.00706	.36155	.05323	.00493	.00039	-.00042	-.00459	2.09758	-.05746	-.05934
4.630	21.310	.00923	.48630	.05393	.00416	-.00015	-.00024	-.00712	1.90971	-.06076	-.05934
4.630	26.659	.01288	.64458	.05563	.00219	-.00028	.00021	-.01096	1.63550	-.05746	-.05934
4.630	31.746	.01539	.84478	.05504	-.00078	.00002	.00010	.01332	1.40333	-.05746	-.05604
4.630	37.199	.01904	1.05351	.05468	-.00346	.00058	-.00048	-.01568	1.18480	-.05746	-.05604
4.630	42.312	.02180	1.25472	.05302	-.01024	.00080	.00014	-.01874	1.00930	-.05746	-.05934
	GRADIENT	.00119	.01869	-.00062	.00022	-.00001	.00002	-.00021	.28837	-.06045	-.07800

LA-10 LARC UPM 1015 LO-100 CRB. (SHIPS) (BMEVFB) (RF0013) ( 06 SEP 73 )

## REFERENCE DATA

SREF = 171.4720 30. IN. XREF = 16.8366 INCHES  
 LREF = 25.5120 INCHES YREF = .0000 INCHES  
 BREF = 20.3997 INCHES ZREF = .0000 INCHES  
 SCALE = .5188 SCALE

## PARAMETRIC DATA

BETA = 3.000 MINMO = 2.000  
 LANDAF = 75.000 ELEVTR = .000  
 BOFLAP = .000 RUOFLR = 40.000

RUN NO. 47/ 0 RNVL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CRB	CYN	CY	L/D	CPB	CPC
2.360	-4.563	3.04674	-1.1962	.08190	.00706	-.00415	.00364	-.05316	-1.43670	-.15755	-.15669
2.360	-2.333	3.04305	-.06647	.08170	.00496	-.00405	.00338	-.04997	-.74808	-.15974	-.15600
2.360	-1.175	3.04254	-.03116	.08174	.00371	-.00408	.00326	-.04920	-.35794	-.15697	-.15600
2.360	-.068	3.04173	.00415	.08178	.00245	-.00413	.00302	-.04773	.05181	-.15699	-.15612
2.360	.931	3.04037	.03272	.08195	.00148	-.00417	.00288	-.04629	.38053	-.15704	-.15617
2.360	1.939	3.04136	.06297	.08195	.00070	-.00408	.00266	-.04622	.71596	-.15705	-.15617
2.360	4.011	3.04447	.12687	.08242	-.00131	-.00442	.00237	-.04737	1.32807	-.16846	-.16469
2.360	6.155	3.04311	.19413	.08227	-.00316	-.00480	.00201	-.04515	1.79501	-.17424	-.17045
2.360	8.375	3.04612	.25994	.08156	-.00458	-.00553	.00172	-.04623	2.06902	-.17704	-.17609
2.360	12.654	3.05070	.38969	.07981	-.00654	-.00621	.00084	-.04655	2.22225	-.18852	-.18753
2.360	16.916	3.05432	.52993	.07895	-.00824	-.00680	-.00042	-.04486	2.12721	-.19423	-.19606
2.360	21.164	3.06110	.68981	.07413	-.00973	-.00732	-.00209	-.04387	1.92266	-.19425	-.19611
2.360	26.590	3.06818	.86072	.06824	-.01073	-.00778	-.00457	-.04018	1.65696	-.20285	-.20184
2.360	31.793	3.07374	1.06550	.58242	-.01597	-.00847	-.00405	-.04584	1.41959	-.20289	-.20184
2.360	37.152	3.08524	1.22836	.04676	-.01629	-.00994	-.00169	-.04123	1.22037	-.14854	-.12776
GRADIENT		-.00034	.05091	.00010	-.00098	-.00003	-.00015	.00076	.32747	-.00083	-.00071

RUN NO. 49/ 0 RNVL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CRB	CYN	CY	L/D	CPB	CPC
2.360	-4.463	3.04422	-1.1666	.07468	.00392	-.00186	.00159	-.04973	-1.32288	-.12023	-.12224
2.360	-2.253	3.03944	-.05731	.07411	.00276	-.00214	.00153	-.04577	-.71232	-.12020	-.12222
2.360	-1.135	3.03926	-.02850	.07410	.00243	-.00215	.00154	-.04560	-.36207	-.11701	-.12227
2.360	-.085	3.03821	-.00163	.07403	.00211	-.00232	.00153	-.04470	-.02057	-.11706	-.12232
2.360	.976	3.03772	.02527	.07342	.00181	-.00254	.00140	-.04393	.32518	-.12022	-.11900
2.360	1.942	3.03725	.05023	.07311	.00152	-.00276	.00127	-.04309	.63427	-.12472	-.12225
2.360	4.043	3.03764	.16341	.07275	-.00002	-.00385	.00116	-.04287	1.22897	-.12673	-.12872
2.360	6.151	3.03690	.22473	.07212	-.00074	-.00450	.00094	-.04264	1.72160	-.12998	-.13196
2.360	8.321	3.04016	.34167	.07049	-.00218	-.00561	.00046	-.04273	2.04001	-.13322	-.13519
2.360	12.645	3.04245	.46817	.06809	-.00308	-.00666	-.00044	-.04157	2.21451	-.13970	-.13842
2.360	16.840	3.04734	.60412	.06695	-.00449	-.00759	-.00170	-.04122	2.12172	-.13972	-.14489
2.360	21.054	3.05297	.78780	.06377	-.00702	-.00737	-.00333	-.03999	1.93179	-.13970	-.14489
2.360	26.404	3.05348	.97831	.05927	-.01176	-.00807	-.00244	-.04359	1.66219	-.14297	-.14490
2.360	31.599	3.05743	1.17758	.05053	-.01598	-.01024	-.00044	-.04085	1.42678	-.13969	-.14164
2.360	36.985	3.06743	1.28559	.04207	-.01409	-.00819	-.00234	-.04366	1.21561	-.13322	-.13842
2.360	41.981	3.08310	1.28559	.04207	-.01409	-.00819	-.00234	-.04366	1.04077	-.06842	-.06418
GRADIENT		-.00075	.02587	-.00016	-.00032	-.00016	-.00005	.00078	.30509	-.00093	-.00050

DATE 21 SEP 73

**TABULATED SOURCE DATA UPWT-1915**

(RPO013) (06 SEP 73)

A-10 1 ARC UPLT 1915 LO-100 ORA. (SHIP) (BACVFB)

### PARAMETRIC DATA

BETA	=	3,000	WINNO	=	2,000
LANDAF	=	75,000	ELEVTR	=	.000
BEST AB	=	.000	RUDFLR	=	40,000

## REFERENCE DATA

SRF =	171.4725	SA. IN.	YGRP =	16.8366	INCHES
URF =	25.5155	INCHES	YTRP =	.0000	INCHES
BREF =	20.3597	INCHES	ZGRP =	.0000	INCHES
SCALE =	.0100	SCALE			

GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	COL	CYN	CY	L/D	CFB	CFE
3.960	-4.214	3.07299	-0.9306	0.6364	0.0159	-0.00358	-0.00026	-0.04098	-1.25347	-0.07078	-0.07491
3.960	-2.020	3.06847	-0.4951	0.6178	0.0165	-0.00102	-0.00019	-0.03836	-0.74504	-0.07078	-0.07491
3.960	-0.871	3.066578	-0.02616	0.6105	0.0177	-0.00128	-0.00009	-0.03762	-0.41070	-0.07078	-0.07232
3.960	0.204	3.06571	-0.02445	0.6145	0.0171	-0.00146	-0.00011	-0.03691	-0.07712	-0.07340	-0.07232
3.960	1.242	3.06374	0.01581	0.5996	0.0185	-0.00168	-0.00018	-0.03562	0.24056	-0.07078	-0.07231
3.960	2.190	3.06417	0.03294	0.5943	0.0205	-0.00185	-0.00020	-0.03557	0.50353	-0.07077	-0.07491
3.960	4.261	3.06286	0.07499	0.5898	0.0251	-0.00238	-0.00019	-0.03474	1.09338	-0.07601	-0.07493
3.960	6.345	3.06327	0.12163	0.5905	0.0273	-0.00308	-0.00016	-0.03512	1.98542	-0.07601	-0.07753
3.960	8.562	3.06247	0.17133	0.5856	0.0291	-0.00379	-0.00025	-0.03431	1.92649	-0.07601	-0.07752
3.960	12.884	3.06381	0.27211	0.5823	0.0305	-0.00485	-0.00065	-0.03391	2.14699	-0.07862	-0.08013
3.960	21.284	3.06537	0.38514	0.5823	0.0305	-0.00574	-0.00127	-0.03289	2.07246	-0.07863	-0.08013
3.960	21.284	3.06955	0.51328	0.5809	0.0241	-0.00615	-0.00218	-0.03250	1.90146	-0.07862	-0.08013
3.960	26.743	3.07449	0.69571	0.5876	0.0248	-0.00648	-0.00293	-0.03306	1.62736	-0.07862	-0.08013
3.960	32.064	3.07650	0.89204	0.5899	-0.02260	-0.00747	-0.00204	-0.03746	1.38545	-0.08123	-0.08013
3.960	37.442	3.07715	1.10029	0.5713	-0.05666	-0.00905	-0.00461	-0.04287	1.17470	-0.07862	-0.07753
3.960	42.728	3.08318	1.30852	0.5506	-0.01113	-0.00909	-0.00124	-0.04456	0.99521	-0.07601	-0.07752
3.960		-0.50118	0.01979	-0.02055	0.0010	-0.00021	0.00001	0.00074	0.28201	-0.07047	0.00001

Run No	SN/ID	RNL =	2.50	GRADIENT INTERVAL =	-5.00/	5.00
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WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
4.630	-3.957	3.04159	-0.6876	0.5993	0.0103	-0.00344	-0.00095	-0.03963	-1.22522	-0.5084	-0.56204
4.630	-1.824	3.03967	-0.6540	0.5777	0.0110	-0.0078	-0.00098	-0.03716	-0.73564	-0.5084	-0.56204
4.630	-1.679	3.03754	-0.6376	0.5688	0.0111	-0.0100	-0.00086	-0.03628	-0.40389	-0.5084	-0.56204
4.630	0.416	3.03651	-0.6202	0.5617	0.0138	-0.0117	-0.00087	-0.03542	-0.07893	-0.5415	-0.56204
4.630	1.430	3.03439	0.01566	0.5535	0.0141	-0.0131	-0.00087	-0.03457	-0.25615	-0.5746	-0.56204
4.630	2.347	3.03397	0.0149	0.5510	0.0172	-0.0156	-0.00088	-0.03373	-0.51937	-0.5746	-0.56204
4.630	4.384	3.03337	0.0114	0.5415	0.0249	-0.0195	-0.00101	-0.03279	1.12228	-0.5746	-0.5934
4.630	5.487	3.02314	0.0213	0.5364	0.0324	-0.0239	-0.00099	-0.03259	1.62002	-0.5746	-0.5934
4.630	8.667	3.03353	0.0233	0.5321	0.0415	-0.0332	-0.00097	-0.03235	1.95680	-0.5746	-0.5934
4.630	12.768	3.03323	0.0631	0.5310	0.0408	-0.0408	-0.00126	-0.03042	2.17724	-0.5746	-0.5934
4.630	17.169	3.03342	0.0619	0.5309	0.0477	-0.0489	-0.00191	-0.03005	2.10136	-0.5746	-0.5934
4.630	21.070	3.03342	0.0739	0.5309	0.0472	-0.0534	-0.00255	-0.03040	1.91171	-0.6076	-0.5934
4.630	26.627	3.033963	0.06577	0.5354	0.0228	-0.0591	-0.00284	-0.03199	1.63832	-0.5746	-0.5934
4.630	31.794	3.04439	0.0709	0.5327	0.0075	-0.0744	-0.00135	-0.03777	1.39612	-0.5746	-0.56204
4.630	37.261	3.04439	0.0709	0.5327	-0.00355	-0.0805	-0.00095	-0.04144	1.18226	-0.5746	-0.56204
4.630	42.189	3.04633	0.07223	0.5276	-0.01015	-0.0809	-0.00126	-0.04302	1.01037	-0.6076	-0.5934
4.630	46.120	3.04633	0.07223	0.5276	0.0017	-0.0918	-0.00001	-0.00082	0.28637	-0.6076	-0.60206



(RP0014) (06 SEP 73)

LA-10 LARC UPWT 1015 LO-100 ORB. (SHIPS) (B24WFB)

## REFERENCE DATA

XREF = 171.4720 50. IN. XRRP = 16.8366 INCHES  
 LREF = 25.5100 INCHES YRRP = .0000 INCHES  
 BREF = 20.5597 INCHES ZRRP = .0000 INCHES  
 SCALE = .0188 SCALE

## PARAMETRIC DATA

BETA = .000 WINGNO = 2.000  
 LAOAF = 75.000 ELEVTR = -10.000  
 BDFAP = .000 RUDFLR = 40.000

RUN NO. 58/ 0 RVL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
2.360	-4.531	.00165	-1.5658	.08496	.01471	-.00064	-.00058	.00085	-1.53785	-.17169	-.16792
2.360	-2.310	.00301	-.08429	.08451	.01195	-.00065	-.00054	-.00022	-.92001	-.17189	-.17098
2.360	-1.196	.00163	-.04910	.08416	.01112	-.00046	-.00068	.00121	-.55595	-.16891	-.17085
2.360	-.086	.00436	-.01394	.08380	.00965	-.00066	-.00051	-.00128	-.16479	-.17471	-.16809
2.360	.939	.00565	.01793	.08341	.00865	-.00066	-.00060	-.00185	.19788	-.17748	-.16800
2.360	1.884	.00551	.04300	.08320	.00772	-.00057	-.00060	-.00175	.47581	-.17758	-.16326
2.360	4.124	.00664	.10506	.08280	.00574	-.00038	-.00070	-.00222	1.11287	-.18322	-.16802
2.360	6.170	.00710	.17210	.08173	.00388	-.00038	-.00067	-.00282	1.63176	-.18901	-.17096
2.360	8.374	.00679	.23918	.08049	.00243	-.00054	-.00055	-.00234	1.96496	-.19758	-.17665
2.360	12.684	.00903	.37079	.07843	.00164	-.00067	-.00039	-.00510	2.18145	-.20610	-.18227
2.360	16.985	.01046	.50553	.07192	.00094	-.00052	-.00013	-.00715	2.13661	-.19328	-.17378
2.360	21.141	.01245	.64303	.05932	.00017	-.00026	.00002	-.00919	1.93796	-.20047	-.19692
2.360	26.577	.01467	.82918	.06315	.00011	-.00011	.00083	-.01358	1.66873	-.19750	-.19078
2.360	31.754	.01936	1.01350	.05327	.00011	.00003	.00033	-.01493	1.44183	-.19188	-.16814
2.360	37.157	.02115	1.21520	.04393	-.00018	-.00018	.00187	-.02173	1.22512	-.17481	-.13978
2.360	39.188	.02585	1.27997	.04160	-.00056	.00041	.00037	-.01983	1.15425	-.16906	-.13688
2.360		.02764	.03055	-.00029	-.00005	.00002	-.00001	-.00041	.31474	-.00146	-.00030

RUN NO. 61/ 0 RVL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
2.060	-4.424	.00053	-1.3555	.07738	.00883	-.00042	-.00124	.00087	-1.47991	-.12723	-.12600
2.060	-2.261	.00110	-.07639	.07602	.00743	.00003	-.00122	.00335	-.92849	-.12726	-.12804
2.060	-1.130	.00184	-.04789	.07570	.00688	.00013	-.00121	.00272	-.60942	-.12719	-.12596
2.060	-.085	.00256	-.01921	.07507	.00654	.00018	-.00118	.00208	-.25428	-.12715	-.12592
2.060	.958	.00242	.00569	.07462	.00626	.00023	-.00118	.00218	.05939	-.13040	-.12593
2.060	1.961	.00314	.03443	.07425	.00592	.00023	-.00116	.00155	.42281	-.13040	-.12593
2.060	4.036	.00459	.08621	.07339	.00555	.00017	-.00112	.00026	1.01954	-.13041	-.12271
2.060	6.106	.00429	.14168	.07276	.00491	.00038	-.00112	.00048	1.52298	-.13367	-.12918
2.060	8.339	.00421	.20476	.07181	.00414	.00020	-.00096	.00001	1.91780	-.14015	-.13241
2.060	12.607	.00556	.31954	.06990	.00328	.00017	-.00082	-.00175	2.14983	-.14666	-.13566
2.060	16.827	.00715	.44254	.06680	.00278	.00017	-.00052	-.00420	2.11507	-.14563	-.14210
2.060	20.368	.00929	.57592	.06382	.00232	.00021	-.00035	-.00662	1.93816	-.14991	-.14536
2.060	26.329	.01183	.75131	.05974	.00119	.00002	-.00014	-.00957	1.67234	-.14664	-.14534
2.060	31.615	.01414	.94317	.05375	-.00005	.00017	.00024	-.01258	1.43473	-.14989	-.13888
2.060	36.992	.02193	1.13468	.04511	-.00034	.00078	-.00042	-.01649	1.22714	-.15013	-.13668
2.060	42.122	.02273	1.33116	.04125	-.00080	.00043	-.00076	-.02076	1.04446	-.13367	-.11980
2.060		.02447	.02620	-.00044	-.00038	.00003	-.00001	-.00042	.30100	-.00050	-.00030

GRADIENT



(RP0015) (06 SEP 73)

LA-10 LARC UPWT 1015 LO-100 ORB. (SHIPS) (BLWFB)

## PARAMETRIC DATA

## REFERENCE DATA

REF = 171.4720 SQ.IN. XGRP = 16.8366 INCHES  
 UREF = 25.5100 INCHES YGRP = .0000 INCHES  
 BREF = 20.3597 INCHES ZGRP = .0000 INCHES  
 SCALE = .0188 SCALE

BETA = 3.000 W/MENO = 2.000  
 LANDAF = 75.000 ELEVTR = -10.000  
 BOFLAP = .000 RUOFLR = 40.000

RUN NO. 99/ 0 RVL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
2.360	-4.930	3.04805	-1.15473	.08529	.01428	-.00091	.00319	-.05260	-1.51893	-.16917	-.16827
2.360	-2.326	3.04706	-.18460	.08452	.01158	-.00377	.00295	-.03108	-.92286	-.17199	-.16339
2.360	-1.183	3.04539	-.14958	.08416	.01035	-.00368	.00270	-.04914	-.56166	-.17179	-.16517
2.360	-.128	3.04549	-.11603	.08391	.00933	-.00359	.00247	-.04844	-.18972	-.16978	-.16224
2.360	.956	3.04616	.01581	.08353	.00792	-.00374	.00249	-.04903	.17200	-.16878	-.15931
2.360	1.933	3.04451	.04613	.08315	.00713	-.00369	.00223	-.04695	.51163	-.17453	-.15935
2.360	4.035	3.04559	.10835	.08268	.00534	-.00379	.00178	-.04611	1.13502	-.18316	-.16224
2.360	6.135	3.04689	.17999	.08181	.00351	-.00422	.00146	-.04590	1.64352	-.18604	-.16797
2.360	8.314	3.04845	.23639	.08033	.00235	-.00485	.00127	-.04534	1.95564	-.18889	-.17366
2.360	12.724	3.05246	.37343	.07776	.00169	-.00587	.00038	-.04596	2.19564	-.19171	-.18216
2.360	16.933	3.05720	.50723	.07385	-.00049	-.00622	-.00098	-.04497	2.12341	-.18884	-.19071
2.360	21.148	3.06482	.64543	.06957	-.00296	-.00727	-.00263	-.04461	1.93741	-.19175	-.19646
2.360	26.562	3.07222	.83082	.06287	-.00123	-.00730	-.00356	-.04434	1.67159	-.20032	-.19644
2.360	31.780	3.07844	1.12281	.05576	-.00493	-.00761	-.00496	-.04605	1.43344	-.21465	-.19933
2.360	37.224	3.08756	1.21938	.04333	-.00573	-.00857	-.00619	-.05292	1.22282	-.17748	-.15375
2.360	39.046	3.07747	1.23873	.03762	-.00757	-.00619	-.00325	-.05137	1.15918	-.14803	-.13666
2.360	GRA. IT	-.00032	.03071	-.00131	-.00105	.00001	-.00016	.00077	.31621	-.00127	.00094

RUN NO. 61/ 0 RVL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	CPB	CPC
2.860	-4.464	3.04361	-.13637	.07703	.00887	-.00165	.00131	-.04826	-1.48687	-.12394	-.12596
2.860	-2.246	3.04089	-.07523	.07592	.00746	-.00182	.00142	-.04652	-.91608	-.12717	-.12594
2.860	-1.097	3.03983	-.04643	.07542	.00712	-.00188	.00141	-.04563	-.58954	-.12719	-.12273
2.860	-.067	3.03935	-.01764	.07495	.00678	-.00204	.00128	-.04476	-.23407	-.12396	-.11952
2.860	.977	3.03831	.00729	.07405	.00680	-.00210	.00127	-.04392	.08124	-.12070	-.11950
2.860	1.946	3.03870	.03417	.07369	.00619	-.00242	.00116	-.04381	.42310	-.12073	-.11953
2.860	4.037	3.03775	.14357	.07212	.00583	-.00281	.00089	-.04214	1.02604	-.12397	-.11952
2.860	6.100	3.03795	.20469	.07147	.00444	-.00300	.00069	-.04192	1.55335	-.13369	-.12921
2.860	8.296	3.03898	.24469	.07080	.00395	-.00365	.00069	-.04207	2.17152	-.14340	-.13688
2.860	12.641	3.04163	.32399	.06937	.00331	-.00485	-.00007	-.04188	2.11492	-.14666	-.14536
2.860	16.823	3.04335	.44678	.06664	.00282	-.00595	-.00084	-.04188	1.94150	-.14666	-.14536
2.860	20.927	3.04759	.57531	.06377	.00269	-.00671	-.00226	-.03956	1.67661	-.14991	-.14214
2.860	26.347	3.05357	.75964	.05903	.00114	-.00665	-.00387	-.03859	1.43436	-.14992	-.14536
2.860	31.623	3.05609	.94703	.05394	-.00175	-.00716	-.00322	-.04288	1.22770	-.15369	-.13689
2.860	36.941	3.05866	1.13825	.04418	-.00444	-.00804	-.00088	-.04688	1.04320	-.14018	-.11630
2.860	42.034	3.05995	1.33767	.04051	-.00731	-.00824	-.00283	-.04262	.30108	.00143	.00095
2.860	GRA. IT	-.00467	.02615	-.00451	-.00135	-.00014	-.00005	.00071			

(RP0015) (06 SEP 73)

LA-10 LARC UPWT 1015 LO-100 ORB. (SHIPS) (B2VFB)

## REFERENCE DATA

SRF = 171.4725 50.1N. XGRP = 16.8366 INCHES  
 LRF = 25.5100 INCHES YGRP = 0.0000 INCHES  
 BRF = 20.3597 INCHES ZGRP = 0.0000 INCHES  
 SCALE = 0.0100 SCALE

## PARAMETRIC DATA

BETA = 3.000 MINMO = 2.000  
 LANDAF = 75.000 ELEVTR = -10.000  
 BDFLAP = .000 RUFLR = 40.000

RUN NO. 55/ 0 RV/L = 2.50 GRADIENT INTERVAL = -5.00/ 5.00

WICH	ALPHA	BETA	CN	CA	CLM	CR	CN	CY	L/D	CFB	CPC
3.980	-4.211	3.05117	-1.0763	.06505	.00479	-.00010	-.00041	-.03058	-1.40938	-.07068	-.07220
3.980	-2.007	3.04782	-.06262	.06295	.00466	-.00071	-.00021	-.03714	-.92734	-.07329	-.07220
3.980	-.944	3.04526	-.04085	.06188	.00461	-.00097	-.00013	-.03581	-.63776	-.07329	-.07221
3.980	.164	3.04388	-.01759	.06110	.00453	-.00115	-.00024	-.03452	-.29090	-.07329	-.06960
3.980	1.210	3.04281	.00264	.06050	.00447	-.00132	-.00025	-.03383	.02240	-.07329	-.06960
3.980	2.152	3.04201	.02132	.06005	.00440	-.00154	-.00024	-.03374	.31323	-.07329	-.06960
3.980	4.264	3.04103	.05493	.05935	.00431	-.00207	-.00034	-.03235	.94211	-.07591	-.07221
3.980	6.375	3.04062	.10338	.05877	.00424	-.00264	-.00032	-.03216	1.40440	-.07591	-.07481
3.980	8.967	3.04069	.15516	.05825	.00416	-.00330	-.00030	-.03194	1.79344	-.07852	-.07481
3.980	12.856	3.04211	.25620	.05754	.00406	-.00433	-.00080	-.03153	2.09527	-.08113	-.07481
3.980	17.165	3.04471	.36911	.05675	.00396	-.00521	-.00162	-.03053	2.59969	-.08113	-.07741
3.980	21.318	3.04801	.49311	.05618	.00386	-.00658	-.00255	-.02953	1.89619	-.07852	-.07741
3.980	26.721	3.05383	.68866	.05571	.00373	-.00855	-.00329	-.03071	1.63294	-.08113	-.07741
3.980	32.086	3.05614	.86156	.05531	.00361	-.00983	-.00463	-.03453	1.39316	-.08113	-.07741
3.980	37.490	3.05798	1.06679	.05504	.00350	-.01072	-.00540	-.03597	1.18202	-.08113	-.08001
3.980	42.670	3.06251	1.26735	.05469	.00343	-.01113	-.00607	-.03702	1.00726	-.07812	-.07741
GRADIENT		-.00121	.02034	-.00068	.00004	-.00022	.00000	.00076	.28265	-.00047	.00018

RUN NO. 57/ 0 RV/L = 2.49 GRADIENT INTERVAL = -5.00/ 5.00

WICH	ALPHA	BETA	CN	CA	CLM	CR	CN	CY	L/D	CFB	CPC
4.630	-1.001	3.03691	-.09884	.06116	.00339	-.00022	-.00118	-.03513	-1.40239	-.05731	-.05589
4.630	-1.820	3.03487	-.05957	.05862	.00319	-.00055	-.00119	-.03343	-.93754	-.05731	-.05589
4.630	-.714	3.03324	-.03689	.05730	.00320	-.00083	-.00107	-.03254	-.62648	-.05731	-.05589
4.630	.370	3.03131	-.01513	.05654	.00324	-.00110	-.00109	-.03186	-.27450	-.05733	-.05590
4.630	1.390	3.03118	.00257	.05580	.00330	-.00117	-.00108	-.03183	.02182	-.05731	-.05589
4.630	2.355	3.03117	.02031	.05532	.00355	-.00133	-.00109	-.02998	.32119	-.06063	-.05589
4.630	4.401	3.02897	.05997	.05424	.00456	-.00172	-.00108	-.02942	.94816	-.05731	-.05589
4.630	5.902	3.02836	.09558	.05349	.00534	-.00217	-.00119	-.02809	1.44182	-.06063	-.05589
4.630	8.667	3.02797	.14679	.05303	.00623	-.00272	-.00119	-.02781	1.93982	-.06063	-.05590
4.630	12.937	3.02811	.23944	.05234	.00762	-.00365	-.00180	-.02667	2.11874	-.06063	-.05590
4.630	17.149	3.02963	.34812	.05222	.00856	-.00478	-.00250	-.02630	2.07966	-.06063	-.05919
4.630	21.292	3.03233	.46768	.05243	.00946	-.00529	-.00290	-.02591	1.90566	-.06063	-.05919
4.630	26.648	3.03554	.60812	.05275	.00986	-.00529	-.00320	-.02546	1.63996	-.06063	-.05919
4.630	31.851	3.03711	.78134	.05137	.00978	-.00665	-.00421	-.02461	1.40486	-.06063	-.05919
4.630	37.180	3.03926	1.01832	.04915	.00477	-.00732	-.00458	-.02623	1.19381	-.06063	-.05589
4.630	42.296	3.04307	1.21163	.04526	.00178	-.00731	-.00620	-.02782	1.01984	-.06063	-.05589
GRADIENT		-.00198	.00899	-.00082	.00003	-.00018	.00001	.00075	.28488	-.00015	-.00000

(R00016) ( 06 SEP 73 )

LA-10 LARC UPWT 1015 LO-100 ORB. (SHIPS) (042VFB)

PARAMETRIC DATA

BETA = .000 WINGNO = 2.000  
LANDAF = 75.000 ELEVTR = -10.000  
BDFLAP = .000 RUOFLR = .000

REFERENCE DATA

SRCP = 171.4720 SR.IN. XCRP = 16.8366 INCHES  
LREF = 25.3100 INCHES YCRP = .0000 INCHES  
SRCP = 20.3997 INCHES ZCRP = .0000 INCHES  
SCALE = .0160 SCALE

RUN NO. 62/ 0 RV/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	QFB	QPC
2.360	-4.600	-.00131	-.14884	.06320	.00675	-.00041	-.00016	.00146	-1.91227	-.14147	-.13783
2.360	-2.592	.00240	-.07989	.06317	.00446	-.00056	-.00021	-.00095	-1.16162	-.14158	-.13794
2.360	-1.220	.00190	-.04460	.06288	.00341	-.00052	-.00033	-.00017	-.67779	-.13872	-.13224
2.360	-.118	.00156	-.07824	.06221	.00236	-.00081	-.00021	-.00002	-.14642	-.13300	-.12084
2.360	.912	.00178	.02592	.06168	.00138	-.00072	-.00019	-.00057	.32160	-.12451	-.10955
2.360	1.935	.00248	.05121	.06151	.00060	-.00062	-.00018	-.00112	.77684	-.12149	-.10632
2.360	4.013	.00447	.11172	.06135	-.00096	-.00063	-.00025	-.00223	1.55255	-.11868	-.11228
2.360	6.159	.00611	.17868	.06159	-.00261	-.00069	-.00009	-.00392	2.12729	-.12749	-.12676
2.360	8.305	.00422	.24270	.06165	-.00402	-.00074	.00002	-.00300	2.40719	-.14164	-.14085
2.360	12.689	.00569	.37412	.06133	-.00581	-.00076	.00032	-.00507	2.47516	-.17021	-.16382
2.360	16.995	.00756	.51103	.05988	-.00778	-.00038	.00038	-.00647	2.28043	-.18737	-.18356
2.360	21.160	.00909	.64621	.05807	-.00982	-.00032	.00044	-.00788	2.02378	-.19308	-.18925
2.360	26.518	.01222	.82460	.05537	-.01418	-.00004	.00053	-.01040	1.70721	-.19602	-.19218
2.360	31.795	.01350	1.01461	.05156	-.01682	-.00027	.00097	-.01285	1.44394	-.20744	-.19502
2.360	37.205	.01925	1.25178	.04251	-.01953	-.00018	.00110	-.01732	1.22476	-.17614	-.13261
2.360	39.117	.02165	1.26874	.04013	-.01556	-.00011	.00092	-.01840	1.15328	-.17035	-.12396
GRADIENT		.00051	.03029	-.00026	-.00090	-.00003	-.00000	-.00034	.41399	.00321	.00416

RUN NO. 64/ 0 RV/L = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	L/D	QFB	QPC
2.860	-4.464	.00073	-.13167	.05998	.00222	-.00008	-.00084	.00233	-1.80726	-.11577	-.11137
2.860	-2.275	-.00108	-.07249	.05969	.00130	-.00009	-.00072	.00335	-1.12048	-.11571	-.11131
2.860	-1.124	.00051	-.04370	.05954	.00120	-.00009	-.00068	.00197	-.70426	-.11251	-.10813
2.860	-.111	.00094	-.01692	.05892	.00089	-.00009	-.00081	.00206	-.28903	-.10924	-.10164
2.860	.950	.00167	.00992	.05819	.00081	-.00004	-.00079	.00142	.15343	-.10927	-.09199
2.860	1.917	.00493	.03479	.05785	.00052	-.00010	-.00065	.00155	.55674	-.10606	-.09203
2.860	4.091	.00149	.06838	.05795	.00013	-.00011	-.00063	.00102	1.31073	-.11578	-.10171
2.860	6.069	.00205	.14203	.05797	-.00026	-.00017	-.00060	.00050	1.85923	-.11901	-.10815
2.860	8.273	.00199	.20326	.05783	-.00076	-.00007	-.00045	.00002	2.22984	-.12221	-.11456
2.860	12.627	.00274	.31978	.05745	-.00141	-.00009	-.00045	-.00169	2.37749	-.13197	-.12751
2.860	16.798	.00402	.44056	.05635	-.00142	-.00016	.00006	-.00339	2.23685	-.13644	-.13719
2.860	20.948	.00734	.57042	.05493	-.00113	.00005	.00001	-.00586	2.01021	-.14494	-.13721
2.860	26.336	.00917	.74885	.05295	-.00170	.00008	.00023	-.00809	1.70631	-.14491	-.13718
2.860	31.563	.01216	.93696	.05116	-.00308	.00010	.00000	-.01178	1.44504	-.14817	-.14365
2.860	36.955	.01691	1.12449	.04425	-.00413	.00031	.00059	-.01553	1.22661	-.13197	-.10170
2.860	42.027	.02044	1.31331	.04168	-.00647	.00027	.00084	-.01922	1.04276	-.13198	-.11140
GRADIENT		.00018	.02571	-.00029	-.00003	-.00000	.00002	-.00021	.37317	.00050	.00208

DATE 21 SEP 73

TABULATED SOURCE DATA UPWT-1015

LA-10 LARC UPWT 1015 LO-100 ORB. (SHIPS) (BAREVFB)

(RP0017) ( 06 SEP 73 )

REFERENCE DATA

SREF = 171.4720 SQ. IN. XMRP = 16.8366 INCHES  
 UREF = 23.5100 INCHES YMRP = .0000 INCHES  
 BREF = 29.3597 INCHES ZMRP = .0000 INCHES  
 SCALE = .0100 SCALE

PARAMETRIC DATA

BETA = 3.000 WINGNO = 2.000  
 LAMDAF = 75.000 ELEVTR = -10.000  
 BDFLAP = .000 RUFLR = .000

RUN NO. 63/ 0 RVL = 1.51 GRADIENT INTERVAL = -5.00/ 5.00

WICH	ALPHA	BETA	CN	CA	CLM	CR	CYN	CY	L/D	CPB	CPC
2.360	-4.341	3.05480	-1.0090	.06371	.00595	-.00167	-.00074	-.04368	-1.92750	-.14176	-.13613
2.360	-2.367	3.05348	-.08034	.06354	.00405	-.00162	-.00074	-.04269	-1.16222	-.13623	-.13546
2.360	-1.148	3.05207	-.04350	.06337	.00278	-.00172	-.00087	-.04128	-.65739	-.13331	-.12971
2.360	-.124	3.05166	-.01160	.06287	.00198	-.00177	-.00087	-.04114	-.18226	-.12767	-.12125
2.360	.933	3.05149	.02024	.06252	.00168	-.00177	-.00100	-.03972	.30589	-.12767	-.11841
2.360	1.697	3.05042	.04711	.06261	.00124	-.00182	-.00112	-.03900	.70185	-.12761	-.12119
2.360	4.150	3.04990	.11075	.06221	-.00156	-.00242	-.00134	-.03809	1.51803	-.12491	-.12703
2.360	6.100	3.04950	.17314	.06241	-.00292	-.00240	-.00153	-.03857	2.05817	-.13907	-.13830
2.360	8.334	3.04815	.24360	.06218	-.00420	-.00307	-.00173	-.03831	2.39611	-.15050	-.14968
2.360	12.620	3.04552	.37154	.06152	-.00592	-.00418	-.00198	-.03979	2.47244	-.17617	-.16673
2.360	16.911	3.04596	.50653	.05940	-.00610	-.00514	-.00222	-.04185	2.28893	-.18474	-.18095
2.360	21.087	3.04248	.64544	.05784	-.00594	-.00658	-.00284	-.04134	2.03155	-.19325	-.18943
2.360	26.477	3.03741	.82857	.05534	-.00516	-.00768	-.00432	-.04213	1.71150	-.20175	-.19789
2.360	31.824	3.03438	1.01814	.05099	-.00636	-.00769	-.00514	-.04214	1.44467	-.21320	-.19794
2.360	37.154	3.06518	1.19940	.04332	-.00636	-.00908	-.00624	-.04639	1.22474	-.18189	-.16392
2.360	39.017	3.07131	1.23125	.03894	-.00289	-.00659	-.00618	-.04712	1.15753	-.14773	-.14408
GRADIENT	-.00263		.03038	-.00019	-.00088	-.00004	-.00007	.00070	.41059	.00202	.00190

RUN NO. 65/ 0 RVL = 1.50 GRADIENT INTERVAL = -5.00/ 5.00

WICH	ALPHA	BETA	CN	CA	CLM	CR	CYN	CY	L/D	CPB	CPC
2.360	-4.466	3.04990	-1.13258	.06379	.04221	.00151	-.00247	-.04440	-1.81537	-.11258	-.11142
2.360	-2.281	3.04629	-.07333	.05977	.00128	.00003	-.00237	-.03752	-1.13170	-.11252	-.10814
2.360	-1.163	3.04463	-.04454	.05941	.00095	.00001	-.00225	-.03661	-.71849	-.11255	-.10917
2.360	-.180	3.04414	-.01571	.05987	.00086	-.00020	-.00238	-.03576	-.26542	-.10918	-.09851
2.360	.982	3.04397	.01110	.05836	.00055	-.00037	-.00237	-.03566	.17248	-.10837	-.09527
2.360	1.926	3.04254	.06818	.05818	.00017	-.00064	-.00237	-.03477	.57345	-.10613	-.09856
2.360	3.974	3.04169	.13618	.05818	.00017	-.00119	-.00235	-.03457	1.27776	-.11257	-.10819
2.360	6.110	3.04126	.14556	.05786	-.00052	-.00168	-.00235	-.03361	1.89107	-.11575	-.11458
2.360	8.155	3.04169	.20675	.05722	-.00111	-.00239	-.00231	-.03407	2.25353	-.13523	-.13177
2.360	12.839	3.04415	.32168	.05722	-.00162	-.00354	-.00235	-.03381	2.38769	-.13523	-.13177
2.360	16.821	3.04437	.44291	.05442	-.00132	-.00480	-.00241	-.03381	2.24585	-.14169	-.13720
2.360	21.046	3.04703	.57479	.05242	-.00186	-.00514	-.00240	-.03391	2.01321	-.14172	-.14146
2.360	26.326	3.05019	.75134	.05442	-.00186	-.00514	-.00340	-.03403	1.71998	-.14493	-.14366
2.360	31.577	3.05455	.93636	.04997	-.00332	-.00671	-.00436	-.03718	1.44786	-.14817	-.14366
2.360	36.889	3.04846	1.12352	.04390	-.00441	-.00871	-.00498	-.04098	1.22935	-.13524	-.13439
2.360	42.046	3.05072	1.32592	.04748	-.00711	-.00861	-.00302	-.03890	1.04274	-.13845	-.11462
GRADIENT	-.00264		.02533	-.00026	-.00023	-.00001	.00001	.00064	.37599	.00245	.00105